

Block I General details	
1	<p>Location of the PCB disposal facility:</p> <p>Name of Facility: AVG Abfall-Verwertungs-Gesellschaft mbH City: Hamburg Country: Germany <i>(Provide address information in Block IV)</i></p>
2	<p>Licence / authorization:</p> <p>Is this facility licensed or authorized to handle PCBs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If "Yes": (i) Nature of license / authorization: License for incineration of hazardous waste (ii) Please submit the licensing history <i>(please attach to this questionnaire)</i></p> <p>Issuing authority <i>(name)</i>: <input type="checkbox"/> National <input checked="" type="checkbox"/> Local or <input type="checkbox"/> Independent</p>
3	<p>Please provide information on storage at the facility including:</p> <p>Capacity for the various PCB waste and equipment types: 500 t* *=The total capacity of AVG is 100000 t/a</p> <p>Method: 5 storages for hazardous wastes (see enclosed general plan)</p> <p>Holding time: max. 180 days (according to the regulation EEC 259/93)</p>
4	<p>Worker protection <i>(Please summarize protective measures applied during treatment of PCB wastes)</i></p> <p>For incineration of packaged material not necessary</p> <p>Does the facility have an accident book? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Most frequent cause(s) of incidents involving PCBs: none</p>

5

Opinion box - PCB Management issues *(Please describe briefly)*

What are your major concerns?

Incineration of hazardous waste in our high temperature incineration plant.

See our enclosed brochure.

Can you identify research and development needs in PCB management that would be beneficial for your region and waste managers worldwide?

./.

Block II Types of PCB wastes

Part A: Treatment of PCB containing equipment/material

Part A1: Metallic Parts

A1.1	Types of metallic PCB equipment/material treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>		
		Concentration <i>(specify the unit)</i>		Quantity <i>(specify the unit)</i>
		unit:		unit:
		min	max	
	<input type="checkbox"/> Equipment containing 100 % PCB			
	<input type="checkbox"/> Equipment containing mineral oil contaminated by PCB			
	<input type="checkbox"/> Others:			
<i>Please specify any other limitation on waste accepted:</i>				
A1.2	Presentation of metallic equipment/material In what form must the metallic PCB equipment/material be presented: <input type="checkbox"/> Drums <input type="checkbox"/> Other packaging: <input type="checkbox"/> Other constraints:			

A1.3

Treatment of metallic PCB equipment/material

Immediate destruction of metallic equipment/material containing PCB? Yes No

If 'Yes', please specify the applied technology in Part III

Extraction of PCB? Yes No

If 'Yes':

- please specify the applied technology in Part III
- Is the decontaminated metallic equipment/material subjected to reuse/recycling? Yes No

If 'Yes', please specify in **Block II Part C** (Reuse and recycling)

Part A: Treatment of PCB containing equipment/material

Part A2: Non-metallic Parts

A2.1	Types of non-metallic PCB equipment/material treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>	
		Concentration <i>(specify the unit)</i> unit:	Quantity <i>(specify the unit)</i> unit:
		min	max
<input checked="" type="checkbox"/>	PCB-containing materials (clothes, cables, etc.)	no limits	
<input checked="" type="checkbox"/>	PCB-contaminated residues, sludges	no limits	
<input checked="" type="checkbox"/>	PCB-contaminated soils and sediments	no limits	
<input checked="" type="checkbox"/>	Packaged / drummed waste	no limits	
<input checked="" type="checkbox"/>	Other: tankcontainer, IBCs	no limits	
<p><i>Please specify any other limitation on waste accepted:</i> No treatment except incineration</p>			
A2.2	<p>Presentation of non-metallic equipment/material</p> <p>In what form must the non-metallic PCB equipment/material be presented:</p> <p><input checked="" type="checkbox"/> Drums</p> <p><input checked="" type="checkbox"/> Other packaging: IBC, tankcontainer</p> <p>Packaging of the waste depending on the kind of waste</p> <p><input type="checkbox"/> Other constraints:</p>		

A2.3

Treatment of non-metallic PCB equipment/material

Immediate destruction of non-metallic equipment/material containing PCB? Yes No

If 'Yes', please specify the applied technology in Part III

Extraction of PCB? Yes No

If 'Yes':

- please specify the applied technology in Part III
- Is the decontaminated non-metallic equipment/material subjected to reuse/recycling? Yes No

If 'Yes', please specify in **Block II Part C** (Reuse and Recycling)

Part B: Treatment of PCB oils and PCB waste oils

B1	Types of PCB oils and PCB waste oils treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>	
		Concentration <i>(specify the unit)</i>	Quantity <i>(specify the unit)</i>
		unit: min	max
	<input checked="" type="checkbox"/> 100 % PCB oils	no limits	
	<input checked="" type="checkbox"/> Mineral oils contaminated by PCB	no limits	
	<input checked="" type="checkbox"/> Waste oils contaminated by PCB	no limits	
	<input type="checkbox"/> Other:		
<p><i>Please specify any other limitation on waste accepted:</i> No treatment except incineration.</p>			
B2	<p>Presentation of PCB oil and PCB waste oil</p> <p>In what form must the PCB oil and PCB waste oil be presented:</p> <p><input checked="" type="checkbox"/> Drums</p> <p><input checked="" type="checkbox"/> Other packaging: IBC's, tankcontainer</p> <p>Packaging depending on the kind of waste.</p> <p><input type="checkbox"/> Other constraints:</p>		
B3	<p>Treatment of PCB oils and PCB waste oils</p> <p>Please specify the applied technology for the destruction of PCB oils and PCB waste oils in Part III</p>		

Part C: Reuse & Recycling of decontaminated PCB equipment/material

<p>C1</p>	<p>Types decontaminated PCB equipment/material treated:</p> <p><input type="checkbox"/> Transformers</p> <p><input type="checkbox"/> Capacitors</p> <p><input type="checkbox"/> Materials (clothes, cables, etc.)</p> <p><input type="checkbox"/> Residues, sludges</p> <p><input type="checkbox"/> Soils and sediments</p> <p><input type="checkbox"/> Other:</p>	<p>Limitation on waste accepted <i>(please specify, if appropriate)</i></p> <p>Quantity <i>(specify the unit)</i></p> <p>unit:</p>
<p><i>Please specify any other limitation on waste accepted:</i></p>		
<p>C2</p>	<p>Presentation of decontaminated PCB equipment/material</p> <p>In what form must the decontaminated PCB equipment/material be presented:</p> <p><input type="checkbox"/> Drums</p> <p><input type="checkbox"/> Other packaging:</p> <p><input type="checkbox"/> Other constraints:</p>	

C3

Treatment of decontaminated PCB equipment/material

Reuse and Recycling of decontaminated PCB equipment/material? Yes No

If 'Yes', please specify the applied technology in Part III

Is the decontaminated PCB equipment/material disposed of? Yes No

If 'Yes', please specify:

Transport to the disposal site? Yes No

If 'Yes':

International transport

National transport

Location of disposal site:

Please provide a short description of disposal site:

Block III Detailed information on applied technologies

1	The following description refers to Block II, Part:	Type of PCB waste or decontaminated equipment/material:
	<input type="checkbox"/> A1 (Treatment of metallic PCB equipment/material)	
	<input checked="" type="checkbox"/> A2 (Treatment of non-metallic PCB equipment/material)	see enclosed Acceptance catalogue
	<input checked="" type="checkbox"/> B (Treatment of PCB oil and PCB waste oil)	see enclosed Acceptance catalogue
	<input type="checkbox"/> C (Reuse and recycling of decontaminated PCB equipment/material)	
2	<p>Applied technologies (Please specify the technology used for disposal):</p> <p><input type="checkbox"/> Pyrolysis / gasifiers</p> <p><input type="checkbox"/> Gas Phase Chemical Reduction (GPCR)</p> <p><input type="checkbox"/> Base Catalysed Decomposition (BCD)</p> <p><input type="checkbox"/> Sodium Reduction</p> <p><input type="checkbox"/> Super-Critical Water Oxidation (SCWO)</p> <p><input type="checkbox"/> Plasma Arc</p> <p><input type="checkbox"/> Molten Salt Oxidation</p> <p><input type="checkbox"/> Solvated Electron Technology</p> <p><input type="checkbox"/> Retrofilling</p> <p><input checked="" type="checkbox"/> Other: Incineration of hazardous wastes</p> <p>Type of technology (1-sentence description): High temperature incineration plant for hazardous wastes</p> <p>Description of the technology please provide additional information as appropriate (<i>summarize here and, if necessary, attach documentation</i>) see enclosed brochure</p> <p>Commissioned? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year: 1971</p> <p>Can the technology be used in a mobile facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
3	<p>State of development</p> <p>Does the technology exist as an industrial unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If "No", please indicate when it will become operational:</p> <p>If "Yes", please indicate how many units exist: 2</p> <p>In what countries: Germany</p>	

4

Pretreatment:

Does the technology require any pretreatment procedures? Yes No

If "Yes", please specify required pretreatment procedures:

- Thermal Desorption
 Dilution
 Low Temperature Rinsing
 Electro-osmosis
 Draining/Solvent washing
 Dismantling/Shredding
 Other:

5

Byproducts

What byproducts does the technology produce? *(please specify below)*

Byproduct	Kind	Amount
Liquids:	* see below	L per tonnes of waste treated
Solids:	* see below	kg per tonnes of waste treated
Air:	** see below	m ³ per tonnes of waste treated

Does the technology allow all byproducts to be monitored for POPs*/PTS** before release? Yes No

If POPs*/PTS** are discovered, can the byproducts be returned to the process for further treatment? Yes No

Are any of the byproducts classified as other sorts of hazardous wastes? Yes No

If "Yes" please specify:

What volumes of such byproducts are generated by handling a unit volume of PCB wastes:

Can third party monitoring data be provided? Yes No

If "Yes", please attach to this questionnaire.

* POPs: Persistent Organic Pollutants
 ** PTS: Persistent Toxic Substances

How are byproducts disposed of? *(please describe briefly)*

Landfilling: fly ash, slag, gypsum
 Chemical physical treatment plant: treatment of HCl

*)= 33 % of incinerated wastes are fly ash, slag and gypsum

**) = 36 t/h steam is given to the local district heating network.

8 Disposal costs

What are the *approximate* costs for applying the technology per unit[‡], **including** costs for all technical pretreatment steps and **excluding** all costs **not** related to the technical application of the technology (transport costs, costs for disposal of decontaminated transformers/capacitors/materials, etc.)?

Please specify type of treated/disposed PCB equipment/material/oil below:

	Costs per unit [‡]	Currency
a) contaminated material (clothes, packaging)	410.- to 695.-	Euro
b) contaminated residues (sludges)	410.- to 695.-	Euro
c) contaminated soil, sediments	410.- to 695.-	Euro
d) mineral oil /waste oil contaminated	25.- to 970.-	Euro
e) 100 % PCB oil	approx. 970.-	Euro
f) this is only an extract from our acceptance catalogue		
g) *all above mentioned prices are depending on the amount of PCB as well as packaging		

[‡] Specify the unit for a) to g):
in ton

9 Treatment capacities and scaling (tonnes per year for main waste & equipment types)

Capacity of existing facilities: 100000 units[‡] per year

Can the technology be adapted to higher or lower capacities? Yes No

If "Yes": not practicable for an incineration plant

(i) What is the capacity of the smallest commercially viable facility: units[‡] per year

(ii) What is the capacity of the largest commercially viable facility: units[‡] per year

Does the adaptation will cause additional costs? Yes No

If "Yes" specify the increase in costs for the adaptation (%) of the initial costs:

(i) For smaller plants: %

For larger plants: %

[‡] Please specify the unit: The commercial part is in responsibility of AVG.

Block IV**Facility: Address and Service Information**

1

Facility Name: AVG Abfall-Verwertungs-Gesellschaft mbH
Address: Borsigstrasse 2
City/Town: 22113 Hamburg
P.O. Box:
District/State:
Country: Germany
Telephone: +49 (0)40 733510111
Fax: +49 (0)40 7325164
Email: info avg-hamburg.de
Web site: www.avg-hamburg.de

Person completing form

Name: Carmen Behr
Position: Customer Service

Parent Company (if different): E.ON Kraftwerke GmbH

Address: Tresckowstr. 5
City/Town: 30457 Hannover
P.O. Box:
District/State:
Country: Germany
Telephone: +49 (0)511 43902
Fax: +49 (0)511 4394052
Email: www.eon-kraftwerke.de

2	<p>Other Services offered by the company</p> <p><input checked="" type="checkbox"/> Laboratory analysis / testing</p> <p><input type="checkbox"/> PCB waste packaging for shipment</p> <p><input type="checkbox"/> PCB classification / labeling</p> <p><input type="checkbox"/> Clean-up of PCB contaminated sites</p> <p><input checked="" type="checkbox"/> PCB wastes transport</p> <p><input type="checkbox"/> Other PCB-related services:</p>
3	<p>Further information</p> <p>Identify any company information (brochures, notes etc...) provided separately and if you wish provide additional comments on your services in not more than 50 words:</p> <ol style="list-style-type: none">1. Brochure of AVG2. Acceptance catalogue for AVG's incineration plant3. General plan of AVG, where the storages are marked