

Block I General details	
1	<p>Location of the PCB disposal facility:</p> <p>Name of Facility: BCD TECHNOLOGIES PTY. LTD. City: BRISBANE Country: AUSTRALIA (Provide address information in Block IV)</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: STORAGE & TREATMENT OF REGULATED WASTE INCLUDING 'POPS' MATERIALS (ii) Please submit the licensing history (please attach to this questionnaire)</p> <p>Issuing authority (name): QUEENSLAND GOVERNMENT ENVIRONMENTAL AGENCY <input type="checkbox"/> National <input checked="" type="checkbox"/> Local or <input type="checkbox"/> Independent LICENCED SINCE 1992</p>
3	<p>Please provide information on storage at the facility including:</p> <p>Capacity for the various PCB waste and equipment types:</p> <p>Method: FULLY BONDED REGULATED WASTE STORAGE FACILITY</p> <p>Holding time: UNLIMITED. TYPICALLY WASTE IS PROCESSED WITHIN 6-8 WEEKS</p>
4	<p>Worker protection (Please summarize protective measures applied during treatment of PCB wastes)</p> <p>PERSONAL PROTECTIVE EQUIPMENT BIOLOGICAL MONITORING 6 MONTHLY INTERVALS VENTILATION OF FACTORY AREA</p> <p>Does the facility have an accident book? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Most frequent cause(s) of incidents involving PCBs: NO INCIDENTS REPORTED</p>

5

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

What are your major concerns?

- 1 Identification of materials - other contaminants

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> unit: min max	Quantity <i>(specify the unit)</i> unit:
	<input checked="" type="checkbox"/> Equipment containing 100 % PCB		
	<input checked="" type="checkbox"/> Equipment containing mineral oil contaminated by PCB		
	<input checked="" type="checkbox"/> Others: CABLES & INSULATING MATERIALS		
<p><i>Please specify any other limitation on waste accepted:</i></p> <p>CONTAMINATED SILICON BASED DIELECTRIC FLUIDS</p>			
A1.2	<p>Presentation of metallic equipment/material</p> <p>In what form must the metallic PCB equipment/material be presented:</p> <p><input checked="" type="checkbox"/> Drums</p> <p><input checked="" type="checkbox"/> Other packaging:</p> <p><input type="checkbox"/> Other constraints:</p>		

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: min max	Quantity <i>(specify the unit)</i> unit:
<input checked="" type="checkbox"/>	PCB-containing materials (clothes, cables, etc.)		
<input checked="" type="checkbox"/>	PCB-contaminated residues, sludges		
<input checked="" type="checkbox"/>	PCB-contaminated soils and sediments		
<input checked="" type="checkbox"/>	Packaged / drummed waste		
<input checked="" type="checkbox"/>	Other: SOIL ABSORBENT MATERIALS		
<i>Please specify any other limitation on waste accepted:</i>			
A2.2	Presentation of non-metallic equipment/material In what form must the non-metallic PCB equipment/material be presented: <input checked="" type="checkbox"/> Drums <input checked="" type="checkbox"/> Other packaging: <input type="checkbox"/> Other constraints:		

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		
	<input checked="" type="checkbox"/> Mineral oils contaminated by PCB		
	<input checked="" type="checkbox"/> Waste oils contaminated by PCB		
	<input type="checkbox"/> Other:		
Please specify any other limitation on waste accepted:			
B2	Presentation of PCB oil and PCB waste oil In what form must the PCB oil and PCB waste oil be presented: <input checked="" type="checkbox"/> Drums <input checked="" type="checkbox"/> Other packaging: IBC's & BULK TANKER <input type="checkbox"/> Other constraints:		
B3	Treatment of PCB oils and PCB waste oils Please specify the applied technology for the destruction of PCB oils and PCB waste oils in Part III		

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

<p>C1</p>	<p>Types decontaminated PCB equipment/material treated:</p> <p><input checked="" type="checkbox"/> Transformers</p> <p><input checked="" type="checkbox"/> Capacitors</p> <p><input checked="" type="checkbox"/> Materials (clothes, cables, etc.)</p> <p><input checked="" type="checkbox"/> Residues, sludges</p> <p><input checked="" type="checkbox"/> Soils and sediments</p> <p><input checked="" type="checkbox"/> Other: INSULATION MATERIALS & SEALANTS</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 checked="" type="checkbox"/> Drums</p> <p><input checked="" 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:

SOIL & NON METALLIC ITEMS TO LAND FILL

METALLIC ITEMS FOR METAL RECYCLE

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 checked="" type="checkbox"/> A1 (Treatment of metallic PCB equipment/material)	
	<input checked="" type="checkbox"/> A2 (Treatment of non-metallic PCB equipment/material)	
	<input checked="" type="checkbox"/> B (Treatment of PCB oil and PCB waste oil)	Base Catalysed Dechlorination
	<input checked="" type="checkbox"/> C (Reuse and recycling of decontaminated PCB equipment/material)	Ferrous & Non Ferrous Material & Oil
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 checked="" type="checkbox"/> Base Catalysed Decomposition (BCD) PCB Oil & PCB Waste Oil</p> <p><input type="checkbox"/> Sodium Reduction</p> <p><input type="checkbox"/> Super-Critical Water Oxidation (SCWO)</p> <p><input checked="" type="checkbox"/> Plasma Arc PLASCON "IN FLIGHT" PLASMA ARC - 100% PCB Oils</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:</p> <p>Type of technology (1-sentence description): THERMAL DESORPTION SOLVENT EXTRACTION</p> <p>Description of the technology please provide additional information as appropriate (summarize here and, if necessary, attach documentation) BATCH THERMAL DESORPTION FOR REMOVAL OF PCB FROM METALLIC EQUIPMENT & CONTAMINATED SOLIDS</p> <p>Commissioned? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year: 1996</p> <p>Can the technology be used in a mobile facility? <input checked="" type="checkbox"/> Yes <input 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: 8</p> <p>In what countries: AUSTRALIA JAPAN UNITED KINGDOM</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:	4% NaCl Solution	L per tonnes of waste treated
Solids:	CARBON FINES	<0.1 kg per tonnes of waste treated
Air: GASES?	Argon, Carbon Dioxide	380 m ³ per tonnes of waste treated 630

Does the technology allow all byproducts to be monitored for POPs*/PTS** before release? Yes NoIf POPs*/PTS** are discovered, can the byproducts be returned to the process for further treatment? Yes NoAre 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)

Sodium Chloride Solution is discharged to Trade Waste

6	<p>Efficiency (<i>please specify, if appropriate</i>)</p> <p>Destruction efficiencies (DEs): > 99.99999 %</p>
7	<p>Monitoring & Control of releases</p> <p>What technologies are used to monitor releases:</p> <p>Air: } GC/ECW/FID/TCD Effluents: } \$ GC/MS Solids:</p> <p>Are all releases monitored for POPs*/PTS** before release? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If POPs*/PTS** are discovered, can the releases be returned to the process for further treatment? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Are any of the releases classified as hazardous wastes? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If "Yes" please specify:</p> <p>What technologies are used/ required to monitor and treat any such releases prior to release:</p> <p>What volumes of such releases are generated by handling a unit volume of PCB wastes:</p> <p>Is third party monitoring data available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>If "Yes", please attach to this questionnaire. .</i></p> <p style="text-align: right;">* POPs: Persistent Organic Pollutants ** PTS: Persistent Toxic Substances</p> <hr/> <p>How are releases disposed of? (<i>please describe briefly</i>)</p>

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)		
b)		
c)		
d)		
e)		
f)		
g)		

[‡] Specify the unit for a) to g):

9

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

Capacity of existing facilities: **1500 TONNES** units[‡] per year

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

If "Yes":

- (i) What is the capacity of the smallest commercially viable facility: units[‡] per year **350 TONNES / YEAR**
- (ii) What is the capacity of the largest commercially viable facility: units[‡] per year **350 TONNES / 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: **PLASCON ' IN FLIGHT ' PLASMA ARC**

Block IV

Facility: Address and Service Information

1

Facility Name: BCD TECHNOLOGIES PTY LTD
Address: 2 KRYPTON STREET
City/Town: NARANGBA QUEENSLAND 4504
P.O. Box: P.O. Box 119
District/State: NARANGBA QUEENSLAND 4504
Country: AUSTRALIA
Telephone: +61 7 3203 3400
Fax: +61 7 3203 3450
Email: bcdte@gil.com.au
Web site: www.srlplasma.com

Person completing form

Name: Rex Williams
Position: MANAGING DIRECTOR

Parent Company (if different):

Address:
City/Town:
P.O. Box:
District/State:
Country:
Telephone:
Fax:
Email:

2

Other Services offered by the company

- Laboratory analysis / testing
- PCB waste packaging for shipment
- PCB classification / labeling
- Clean-up of PCB contaminated sites
- PCB wastes transport
- Other PCB-related services:

3

Further information

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: