Table 1: Technology Overview – Summary Technical Details

Technology Provider	Technology	Scale +	Comp. treated	Related comp treated	Validation project experience **	Applicability Ranking++	Additional Remarks	Others
Kansai Electric Power Co., Inc. (KEPCO)	(T-BUOK)	F	Mineral oil contaminated with low concentration PCBs				Full scale plant with a 36KL/day continuous treating capacity	
Kansai Electric Power Co., Inc. (KEPCO)	(T-BUOK)	B	Mineral oil contaminated with low concentration PCBs		**		bench scale plant with a 150 l/hr continuous treating capacity	

+Key: F - Full-scale applications completed	++Key: Applicability ranking for pesticides
P - Pilot/Demonstration scale completed; no F-applications	DA – Direct applicable
B - Bench/Laboratory scale completed; no P or F-applications	FS 1 – Full scale within reasonable period possible 0-2 years
T - Theoretical applicable, no B, P, F applications	FS 2 – Full scale within considerable period possible 2-5 years
* Vendor claims performance of demonstration, but no data provided	**Validation on the basis of info provided in Table 2 and 3

Table 2: Overview Project Experience per Technology Supplier

<table>
<tr><th>Technology Provider</th><th>Contaminants</th><th>Amount treated in tons</th><th>Results incl. DRE, Pre-treat, Post treat Emissions, energy consumption, costs*</th><th>Client References Name, address, contact person phone, Email, fax</th></tr>
<tr><td>Kansai Electric Power Co., Inc. (KEPCO)</td><td>PCBs</td><td>Bench scale plant July 1,1995 to February 15, 1996
21 tests were done. 200L of the contaminated oil was used in the each test, so 4.2m^3 of the contaminated oil was used.</td><td>PCB concentration: about 100mg/kg, t-BuOK:1.5%
<table>
<tr><th rowspan="2">React.temp. (℃)</th><th colspan="5">Reaction time (min)</th></tr>
<tr><th>0</th><th>3</th><th>6</th><th>9</th><th>DREs at 9min</th></tr>
<tr><td>200</td><td>100</td><td>2.7</td><td>1.1</td><td>0.88</td><td>99.12</td></tr>
<tr><td>220</td><td>94</td><td>0.21</td><td>0.051</td><td>0.055</td><td>99.94</td></tr>
<tr><td>250</td><td>110</td><td>0.043</td><td>0.019</td><td>0.014</td><td>99.99</td></tr>
</table>
PCB concentration: about 100mg/kg,Reaction Temp.:250℃
<table>
<tr><th rowspan="2">t-BuOK (%)</th><th colspan="5">Reaction time (min)</th></tr>
<tr><th>0</th><th>3</th><th>6</th><th>9</th><th>DREs at 9min</th></tr>
<tr><td>0.5</td><td>86</td><td>0.44</td><td>0.061</td><td>0.13</td><td>99.85</td></tr>
<tr><td>1.0</td><td>77</td><td>0.39</td><td>0.091</td><td>0.033</td><td>99.96</td></tr>
<tr><td>1.5</td><td>110</td><td>0.043</td><td>0.019</td><td>0.014</td><td>99.99</td></tr>
</table></td><td></td></tr>
<tr><td>Kansai Electric Power Co., Inc. (KEPCO)</td><td>PCBs</td><td>November 1, 2003 to March 31, 2004: 1700m^3</td><td>
<table>
<tr><th></th><th>Analytical method</th><th>Results</th><th>Criteria</th></tr>
<tr><td>Treated oil</td><td>GC/MS</td><td>< 0.005 mg/kg</td><td>< 0.5 mg/kg</td></tr>
<tr><td>Waste t-BuOH</td><td>GC/MS</td><td><0.00 5 mg/kg</td><td>< 0.5 mg/kg</td></tr>
<tr><td>Waste generated salt (K_2SO_4)</td><td>ECD/GC</td><td>< 0.0005 mg/L</td><td>< 0.03 mg/L</td></tr>
<tr><td>Waste sludge</td><td>GC/MS</td><td><0.005 mg/kg</td><td>< 0.5 mg/kg</td></tr>
</table></td><td></td></tr>
<tr><td></td><td></td><td>April 1, 2004 to March 31, 2005: 6500m^3</td><td>Data are same above.</td><td></td></tr>
<tr><td></td><td></td><td>April 1, 2005 to March 31, 2006: 9700m^3</td><td>Data are same above.</td><td></td></tr>
<tr><td></td><td></td><td>April 1, 2006 to March 31, 2007: 10300m^3</td><td>Data are same above.</td><td></td></tr>
</table>

Table 3: Overview detailed project information per project – Project name (from Table 2)

Location project	Pre-treat mg/kg	Post-treat Mg/kg	DREs	Emissions 1.Air (HCl, Dioxins & furans etc) 2. Water, 3. Waste (slags)	Energy consumption	Costs(Capital, operating costs)	Others, remarks
Kansai Electric Power Co., Inc. (KEPCO)	5~100	Less than 0.005	99.9~99.99		4,230,000 (kwh/year)	1,000$/KL Operation period : 10 years Treating amount : 36 KL/D	

Table 4: Client References Overview project experience per technology suppliers

This Table makes references to the concerning cement companies and not to the individual plants. The know-how and experience is with the cement companies.

Organization	***Description/Notes***
Kansai Electric Power Co., Inc. (KEPCO)	Electricity generation and distribution company. KEPCO treats his own PCB contaminated mineral oil.

Table 5: Utilities Required for Low-concentrated PCB Waste Treatment

Utility	Units	Quantity required per KL of waste input	Quantity required per month (Semi-mobile plant)	Quantity required per year (Full-scale plant)
Electricity	MWh	0.42		4,230
t-BuOK	T	0.005		50
Paraffin oil	KL	0.0066		66
H_2SO_4	Kg	2.86		28,600
KOH	Kg	0.068		680
Fuel oil (kerosin)	KL	0.021		210
Cooling Water	m^3	0.241		2,410
Processing Rate	L/hr			1,500
	KL/month			833
	KL/yr			10,000