



turn back the toxic tide

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## The French Deception: PCBs and the Clemenceau

Prepared by the Basel Action Network

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### Summary

To date, most of the controversy and news surrounding the export of the French aircraft carrier *Clemenceau* to the Indian shipbreaking yards in Alang, Gujarat state, has centered around the fact that significant quantities of asbestos still remain on the vessel. While the amount of remaining asbestos is in dispute (debate runs between 45 and 1000 tonnes), and it has yet to be determined whether the French government has deceived the public and the authorities of India regarding the actual amounts, they have indeed admitted that as much as 45 tonnes of asbestos remains on board the ship.

Further, following public pressure, the French government has recently stated to the global press that they will oversee the removal operations of asbestos in India and will see to it that the asbestos waste is repatriated to France.

However, surprisingly, information regarding another major global toxic pollutant expected by experts to be on board the ship in large quantities has been suppressed by the French government in what can only be seen as an attempt to deceive the public and the governments of India and Egypt. So far, as questions about this global pollutant are not being asked, neither by the Indian authorities, nor by the global media, it appears that France may be getting away with hiding another toxic time bomb.

The toxic chemicals of concern are known as polychlorinated biphenyls or PCBs, a class of toxic, persistent, cancer causing chemicals, so deadly as to have been among the world's first group of chemicals to be banned from production and use by international law -- The Stockholm Convention on Persistent Organic Pollutants, a treaty to which France is a Party and India is a signatory.

No less than three international treaties seek to control the trade, use and manufacture of PCBs in concentration levels above 50 parts per million (ppm). The Basel Convention controls the transboundary movements of PCB wastes. The Rotterdam Convention controls the transboundary movement of non-waste PCBs. The Stockholm Convention controls the trade, use, disposal and manufacture of PCBs and makes reference to the Rotterdam and Basel Conventions' competence.

France has refused to be held accountable under any of these international accords with respect to the export of the *Clemenceau* despite being a Party to all three Conventions. Yet, based on data available

from the United States Navy and the US Environmental Protection Agency, BAN has very strong reasons to believe that the *Clemenceau* contains within its remaining structure, now en route to India, between 343 and 419 tonnes of PCB contaminated waste above 50 ppm.

The great deception being perpetrated by the French government is found specifically in recent statements that the *Clemenceau* contains no PCBs because the ship no longer has “wet transformers.” This statement has been made in writing to the Egyptian authorities, when the *Clemenceau* passed through the Suez Canal, as well as to the Supreme Court Monitoring Committee of India. “Wet transformers” are common PCB applications in land-based electronic transmission equipment which utilize transformers containing a dielectric fluid consisting of PCBs in an oil matrix. However, the US Navy has stated that 95% of the PCBs on naval ships of this vintage *do not exist in transformer oils* but are found in solid matrix applications such as cables, wiring, paints, gasket materials, flooring, plastics, insulation etc.

Given the fact that PCBs are known to be a significant problem on ex-naval vessels in solid form and not in liquid transformer oils, France’s silence on this issue speaks volumes. They have made no claims of ever testing the vessel for solid PCBs, nor have they made a claim that they have removed them, nor have they devised a management plan for dealing with them. Indeed the French government has not spoken a word about this regulatory iceberg, floating below the surface storyline of “dry transformers and asbestos”.

In the United States where PCBs in solid form have become a major regulatory issue with respect to shipscraping, very rigorous criteria for handling and disposal of the PCBs from naval vessels is now in force. It is worthy to note that due to the presence of PCBs or due to the lack of testing for such, the export of the *Clemenceau* as carried out by France would have been illegal from the United States – a country that has not even ratified the Basel Convention, let alone the Basel Ban Amendment.

Yet neither India, nor France have made any effort to assess the amount and impact of the expected PCBs, seek to control them under international law, nor to assure that they are managed in an environmentally sound manner. Indeed, India simply does not have the capacity for managing PCBs and their disposal properly in Alang. As just one example, the recently adopted Stockholm Convention, binding on France as a Party, forbids recycling of PCBs and forbids disposal of PCBs by any technology that does not destroy the PCB molecule completely. India does not possess such technology.

As we shall see, France’s probable export of PCBs is illegal under the European Waste Shipment Regulation and under the Basel, Rotterdam, and Stockholm Conventions. Likewise it is illegal for India to consider a shipment which has taken place in violation of the Basel Convention as anything but illegal traffic under the rules of the Convention. Further, the import of the *Clemenceau* is a direct violation of the order of the Supreme Court of India which among other things calls for a full inventory of hazardous materials and decontamination prior to import. India must not participate in what is seen as a cynical attempt to protect the French treasury at the expense of its people, their environment, and international environmental law.

## **PCBs: A Deadly, Persistent Organic Pollutant**

According to the US Environmental Protection Agency:<sup>1</sup>

*PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. They are basically mixtures of synthetic organic chemicals with the same basic*

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<sup>1</sup> Indented excerpts in italics that follow come from “A Guide for Shipscreppers: Tips for Regulatory Compliance,” Summer 2000, USEPA. Found at: <http://www.ban.org/Library/scrap.pdf>

*chemical structure and similar physical properties. PCBs, which were domestically manufactured from 1929 until their manufacture was banned in 1979, can range in toxicity and vary in consistency from thin light-colored liquids to yellow or black waxy solids.*

*PCBs are toxic and persistent. They have been shown to cause a variety of adverse health effects, such as cancer in animals, as well as a number of serious non-cancer health effects in animals (e.g., effects on the immune system, reproductive system, nervous system, and endocrine system). Studies in humans provide supportive evidence for potential carcinogenic and non-carcinogenic effects of PCBs. The different health effects of PCBs may be interrelated, as alterations in one system may have significant implications for the other systems of the body. In some cases, chloracne may occur in humans exposed to PCBs. Severe cases of chloracne are painful and disfiguring, and may be persistent.*

*It is very important to note that the composition of a PCB mixture changes following its release into the environment. The types of PCBs that bioaccumulate in fish and animals and bind to sediments tend to be the most carcinogenic components of PCB mixtures. As a result, people who ingest PCB-contaminated fish or animal products and touch PCB-contaminated sediment may be exposed to PCB mixtures that are even more toxic than the PCB mixtures contacted by workers and released into the environment.*

*EPA is also very concerned about the toxicity of the chemicals produced when PCBs are heated in fire-related incidents. The chemicals produced include polychlorinated dibenzofurans and polychlorinated dibenzo-p-dioxins, both of which are believed to be much more toxic than PCBs themselves.*

*PCBs can be ingested, inhaled, or absorbed through the skin. They circulate throughout the body and are stored in the body's fatty tissue. There are OSHA regulations governing exposure to PCBs in the workplace.*

## **PCBs Found on Ships**

*While sold under the trade name "Aroclor," PCBs are known by many trade names.... Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber products; in pigments, dyes and carbonless copy paper; and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States before production was stopped in 1979.*

PCBs were used and manufactured in many countries throughout the developed world. Producing countries included: the United States (Monsanto was the only U.S. manufacturer), Austria, China, Czechoslovakia, France, Germany, Italy, Japan, the USSR and the Russian Federation, Spain, and the United Kingdom. Manufacturing stopped in the United States in 1979 but continued in many other countries well into the 1980s.<sup>2</sup>

*PCBs are found in solid (waxy) and liquid (oily) forms in equipment and materials on ships being scrapped. These equipment and materials which may contain PCBs in concentrations of at least 50 parts per million (ppm) include:*

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<sup>2</sup> "POPS Profile Information Reporting Form," Slovak Republic, UNEP Chemicals.

- *Cable insulation*
- *Rubber and felt gaskets*
- *Thermal insulation material including fiberglass, felt, foam, and cork*
- *Transformers, capacitors, and electronic equipment with capacitor/transformers inside*
- *Voltage regulators, switches, reclosers, bushings, and electromagnets*
- *Adhesives and tapes*
- *Oil including electrical equipment and motors, anchor windlasses, hydraulic systems, and leaks and spills*
- *Surface contamination of machinery and other solid surfaces*
- *Oil-based paint*
- *Caulking*
- *Rubber isolation mounts*
- *Foundation mounts*
- *Pipe hangers*
- *Light ballasts*
- *Any plasticizers*

In 1989 the US Navy discovered during the course of normal occupational safety work at a shipyard, that PCBs were seriously contaminating many shipboard materials including many plastics, rubbers, adhesives, gaskets, and other commercial non-metal products used in Navy ships. The Navy's NAVSEA department responsible for designing, engineering, building, and procuring US Naval vessels has been sampling for PCBs in Navy ships since the early 1990s. Shipyards sample during maintenance on ships to determine whether the products removed during maintenance require handling as PCB-materials. The Rand Corporation in 2001 published a report for the US government on the naval shipbreaking issue. They analyzed the 4 databases kept by NAVSEA to estimate the frequency with which PCBs were found in Navy ships. Of the 113 Navy ships ready for disposal at that time, 50 had been sampled and all 50 were found to contain regulated levels of PCBs. However with very few exceptions, Navy ships were found that they did not carry and never did carry large electrical transformers such as those used by electrical utilities and shore-based heavy industry sites. Further the RAND report found that PCBs are rarely found in shipboard liquids, most likely to the fact that such liquids are frequently replaced during the life of the vessel. Rather, the PCBs were found in solid matrix form in the materials listed above.<sup>3</sup> Another independent expert consulted by BAN with practical experience in handling ex-naval vessels cited the following materials as being especially likely to contain PCBs in solid form:

- Electric cables and wires
- Double backed adhesive tapes
- Ventilation bedding components
- Aluminized paint
- Ventilation gaskets
- Ventilation cooling coil insulation
- Pipe-hanger liners
- Trim and drain insulation
- Ventilation flex connectors
- Label plates tape
- Cork insulation
- Chill water insulation
- Insulation tape
- Rubber insulation mounts

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<sup>3</sup> Appendix C (Polychlorinated Biphenyls in Naval Vessels) of Disposal Options for Ships: Ron Hess, Denis Rushworth, Michael V. Hynes, John E. Peters Rand Corporation, 2001.

- Piping insulation
- Spool mount structure
- Resilient mount structure
- Sound mount structure
- Grease
- Foam insulation
- Electrical packing material
- Freeze seal insulation

According to the same expert, the highest concentrations of PCB's are usually found in gasketing materials in ventilation systems, these systems often have significant surface contamination near the gaskets as a result. PCB levels of 50,000 ppm are not unusual for vent gaskets.<sup>4</sup>

<b>Table 1: Comparative Table of Vessels and Materials Containing non-liquid PCBs</b>				
<b>Name of US Vessel</b>	<b>Vessel Type</b>	<b>Year Commissioned</b>	<b>Lightweight (Tonnes)</b>	<b>Materials Containing non-Liquid PCBs (Tonnes)</b>
Oriskany	Aircraft Carrier	1950	25,129	794*
Calooshatchee	Oiler	1945	15,184	34
Canisteo	Oiler	1945	14,705	34
Donner	Landing Ship Dock	1945	5,910	14
Protector	Radar Station Ship	1957	6,194	24
Compass Island	Auxiliary Ship	1953	15,057	47
Canopus	Submarine Tender	1965	12,618	286

Sources: Marine Environmental Risk Assessment, Sept. 2003, Det Norske Veritas

\* Ex-Oriskany Artificial Reef Project: Ecological Risk Assessment, Draft Final Report, June 14, 2005

See Table 1 for a chart of the known levels of PCBs contaminated waste in non-liquid form on various US ex-naval vessels.

Indeed, while Naval vessels are likely to contain more PCBs than merchant ships due to the more extensive need for flame retardancy in shipboard materials as well as the more extensive wiring due to communications and weapons control equipment, PCBs are also regularly encountered during recycling of merchant ships. As cited in the Rand Report, B. D. Ghosh noted PCBs in the paint of merchant ships recycled in India in recent years and also reports PCBs in electric cables and other materials.<sup>5</sup>

<sup>4</sup> E-mail with Werner Hoyt PE, 24 January 2006.

<sup>5</sup>B. D. Ghosh, "Shipbreaking Industry in India: Present Status and Future Prospects," 1999, included as Appendix B in Ferrous Scrap Committee, Ministry of Steel, Government of India, *Shipbreaking in India, A Roadmap For Future Development*, undated (circa spring 1999).

## Amount of PCBs Likely to be on the *Clemenceau*

While it is extremely likely that the *Clemenceau* contains PCBs in solid matrix form based on the evidence cited above, the exact quantity is unknown because the French government, quite shockingly, has failed to test quantify or otherwise address any PCBs that are not in liquid form. However, consultations with marine engineering and shipscrapping experts have indicated that an extrapolation from a pre-PCB ban era US aircraft carrier based on comparative weight and allowing for a margin of error of 10% would serve to give a fairly accurate estimate of the amount of the PCB wastes on board the *Clemenceau*.<sup>6</sup>

According to US government data, (see Table 2 below), a similar aircraft carrier, the former *USS Oriskany* (25,129 light weight tonnes, 278 meter) contained 890 tonnes of solid and liquid PCB contaminated materials (794 tonnes without liquid PCBs). The same study also shows that prior to vessel preparation for remediation, on average, 94.19% of PCB loading in the *Oriskany* came from electrical cable insulation, followed by bulkhead insulation at almost 3%, on average. Based on recent EPA estimates,<sup>7</sup> using the 95% Upper Concentration Level, the total quantity of PCB-containing materials onboard the *Oriskany* with PCB concentrations above the Basel regulatory threshold of 50 parts per million is approximately 387.3 tonnes.<sup>8</sup>

Extrapolating proportionally from the lightweight tonnage of the *USS Oriskany* to the *Clemenceau* gives us a figure of 783 tonnes of total PCB contaminated material, and 381 tonnes of material above the Basel Convention threshold level of 50 ppm. Allowing a 10% margin of error, we can expect that the *Clemenceau* (24,772 light weight tonnes, 265 meters) can possibly contain PCB contaminated materials above 50 ppm in solid matrix form in a range between 343 and 419 tonnes.

It is important to note that although BAN has approximated the PCB content of the *Clemenceau* above the Basel regulatory threshold level of 50 ppm, the overall impact of all PCBs, both below and above regulatory thresholds, still on board the *Clemenceau* cannot be dismissed. Many scientists believe that there are no safe levels of exposure to carcinogens such as PCBs<sup>9</sup>, and avoiding exposure and discharge at any concentration is required to ensure against harm from these toxins.

## Environmentally Sound Management of PCBs Not Possible in Alang

Based on this information, despite the lack of testing by the French government, BAN is certain that the presence of PCBs in such significant quantities expected raise serious legal and technical questions regarding the ability of India to manage such materials in an environmentally sound manner as required by the Basel Convention, and thus the transfer of the PCBs to India poses an undeniable threat to the environment and communities in and around the breaking yards in Gujarat state.

The silence by the governments of both India and France speaks loudly indeed. Where are the statements on how India is expecting to manage this POPs waste? According to the US EPA's Guide for Ship Scrappers, citing US law, the following mandatory requirements for dealing with this significant risk are summarized as follows:

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<sup>6</sup> E-mail with Werner Hoyt, PE. Expert on shipbreaking of Naval vessels, 25 January 2006.

<sup>7</sup> Telephone conversation with Mr. Craig Brown, EPA Region 4, February 7, 2006.

<sup>8</sup> See, Table 2 of this Report, citing, ex-*Oriskany* Artificial Reef Project: Ecological Risk Assessment, Draft Final Report, June 14, 2005.

<http://www.epa.gov/region4/air/lead/documents/ex-OriskanyArtificialReefProjectEcologicalRiskAssessment6-05-drftfinal.pdf>. This value is obtained by adding all PCB Containing Materials with PCB mass, at the 95% UCL, above the regulatory limit of 50 ppm, namely: Black Rubber Material, Electrical Cable, and Bulkhead Insulation Material. Lubricants were not included in this estimate; it is assumed that these have been removed from the *Clemenceau*.

<sup>9</sup> See: <http://yosemite.epa.gov/R10/OWCM.NSF/0/a9578719c73ad1de882569ed00782e89?OpenDocument>.

- Facilities must ensure that workers are protected from exposure to airborne PCB concentrations. OSHA regulations governing exposure to PCBs in the workplace include two time-weighted averages for chlorodiphenyl. These are:

- 1.0 mg/m<sup>3</sup> of workplace air over an 8-hour work shift for chlorodiphenyl containing 42 percent chlorine.

- 0.5 mg/m<sup>3</sup> of workplace air over an 8-hour work shift for chlorodiphenyl containing 54 percent chlorine.

A worker's exposure to PCBs in any 8-hour work shift of a 40-hour week cannot exceed these concentrations. National Institute for Occupational Safety and Health (NIOSH) recommends a more stringent air standard for worker exposure of 1.0 mg/m<sup>3</sup>.

**Table 2. The average and 95% upper confidence level (UCL) of PCB containing material and mass of PCBs estimated to be onboard the ex-Oriskany before and after vessel preparation**

A. PCB containing materials before vessel preparation								
	Units	Ventilation Gaskets	Black Rubber Material	Electrical Cable <sup>b</sup>	Bulkhead Insulation Material	Aluminized Paint	Lubricants	Total Mass
<sup>a</sup> Weight on ship when built	lbs	2680.0	11989.0	559538.6	115695.0	298999.0	208140.0	
<sup>a</sup> Weight on ship when built	kg	1215.6	5438.1	253348.9	52478.4	135623.7	94410.7	
Factor gained during lifecycle		1.2	1.0	1.3	1.0	3.0	1.0	
Total weight on ship	lbs	3216.0	11989.0	726100.2	115695.0	896997.0	208140.0	
Total weight on ship	kg	1458.8	5438.1	329353.5	52478.4	406871.0	94410.7	
Average PCB Concn.	ppm	20.3	37.3	1079.49	215.1	11.6	60.3	
95% UCL Concn.	ppm	33.5	50.9	1998.71	587.7	19.7	22.2	
Mass of PCBs (avg)	lbs	0.07	0.45	783.82	24.9	10.41	12.55	832.17
Mass of PCBs (95% UCL)	lbs	0.11	0.61	1451.26	68.0	17.67	4.62	1542.27
Mass of PCBs (avg)	kg	0.03	0.20	355.53	11.29	4.72	5.69	377.47
Mass of PCBs (95% UCL)	kg	0.05	0.28	658.28	30.84	8.02	2.10	699.56
fraction PCB (avg)		0.0000203	0.0000373	0.0010795	0.0002151	0.0000116	0.0000603	
fraction PCB (max)		0.0000335	0.0000509	0.0019987	0.0005877	0.0000197	0.0000222	
% of total mass (avg)		0.01%	0.05%	94.19%	2.99%	1.25%	1.51%	
% of total mass (max)		0.01%	0.04%	94.10%	4.41%	1.15%	0.30%	
B. PCB containing materials after vessel preparation								
	Units	Ventilation Gaskets	Black Rubber Material	Electrical Cable <sup>b</sup>	Bulkhead Insulation Material	Aluminized Paint	Lubricants	Total Mass
<sup>a</sup> Weight on ship when built	lbs	2680.0	11989.0	502684.7	31700.4	284049.1	0.0	
<sup>a</sup> Weight on ship when built	kg	1215.6	5438.1	228014.0	14379.1	128842.5	0.0	
Factor gained during lifecycle		1.2	1.0	1.3	1.0	3.0	1.0	
Total weight on ship	lbs	3216.0	11989.0	653490.2	31700.4	852147.2	0.0	
Total weight on ship	kg	1458.8	5438.1	296418.2	14379.1	386527.4	0.0	
Average PCB Concn.	ppm	20.3	37.3	1079.49	215.1	11.6	60.3	
95% UCL Concn.	ppm	33.5	50.9	1998.71	587.7	19.7	22.2	
Mass of PCBs (avg)	lbs	0.07	0.45	705.44	6.8	9.88	0.00	722.65
Mass of PCBs (95% UCL)	lbs	0.11	0.61	1306.14	18.6	16.79	0.00	1342.27
Mass of PCBs (avg)	kg	0.03	0.20	319.98	3.09	4.48	0.00	327.79
Mass of PCBs (95% UCL)	kg	0.05	0.28	592.45	8.45	7.61	0.00	608.85
fraction PCB (avg)		0.0000203	0.0000373	0.0010795	0.0002151	0.0000116	0.0000603	
fraction PCB (max)		0.0000335	0.0000509	0.0019987	0.0005877	0.0000197	0.0000222	
% of total mass (avg)		0.01%	0.05%	97.62%	0.94%	1.37%	0.00%	
% of total mass (max)		0.01%	0.05%	97.31%	1.39%	1.25%	0.00%	
<sup>a</sup> Final Weight Report, Aircraft Carrier CV9 USS ESSEX, Office of Supervisor of Shipbuilding for US Navy, Newport News Shipbuilding and Dry Dock Company, Newport News, VA								
<sup>b</sup> Electrical cable normalized to intact electrical cable (0.7226 g insulation/g cable)								

Source: Table 4, Ex-Oriskany Artificial Reef Project: Ecological Risk Assessment, Draft Final Report, June 14, 2005

India is not known to be applying this safeguard.

- Facilities are required to ensure workers removing and disposing of liquid or solid PCB articles wear or use appropriate personal protective clothing or equipment. These may include, but are not limited to, coveralls or similar full-body clothing, head coverings, gloves, and foot covering; face shields; or vented goggles. This equipment/clothing must be disposed of as PCB remediation waste. Facilities are responsible for establishing an effective respiratory program and workers are responsible for wearing their respirators and complying with the program. An effective respirator program must cover the following factors: written standard operating procedures; selection; training; fit test; inspection, cleaning, maintenance, and storage; medical examination; work area surveillance; and program evaluation.

India is not known to be applying this safeguard.

- Facilities are required to conduct medical surveillance for all workers who, for a combined total of 30 or more days per year, are performing PCB removal work or are exposed at or above the exposure limit. This includes medical examination and consultation prior to beginning work, at least annually, and upon termination of employment.

India is not known to be applying this safeguard.

- Facilities must provide, at no cost, a training program for all workers performing PCB removal work during ship scrapping. Training must be provided prior to or at the time of beginning work and at least once a year afterwards, and it must be conducted in a manner which the worker is able to understand.

India is not known to be applying this safeguard.

- Facilities are required to test, in accordance with EPA policies to determine whether PCBs are present and must be removed from a ship. This policy, entitled *Sampling Ships for PCBs Regulated for Disposal (Interim Final Policy, November 30, 1995)*, presents a sampling protocol, which is a statistically based random selection process, to analyze for the presence of PCBs in ship materials to determine whether regulated concentrations of PCBs are present. To be compliant, your facility can choose to either: (1) assume the equipment contains regulated concentrations of PCBs (>50ppm), or (2) can sample to determine the actual PCB concentration of the electrical equipment at the time of disposal or storage-for-disposal.

India is not known to be applying this safeguard.

- Facilities must maintain the sampling and analysis results for all samples taken to verify the PCB concentration of items that have been removed from a ship. The results should be listed two ways: by individual sample and by sampling scheme stage (that is, how the sample was selected in the sampling plan).

India is not known to be applying this safeguard.

- Facilities must follow stringent rules for PCB storage units maintained onsite and establish proper storage facilities for PCBs; use proper containers for PCB storage; manage PCB storage in accordance with marking, recordkeeping, and inspection requirements; within the 1-year disposal time limit, remove from storage and dispose of PCBs and PCB items. If facilities stores PCBs or PCB items for disposal, it must have a "PCB storage facility" which meets the following requirements: Adequate roof and walls to prevent rainwater from reaching PCBs and PCB items; adequate floor which has continuous curbing with a



minimum 6-inch high curb; the floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB article or container stored inside or 25 percent of the total internal volume of all PCB articles and containers stored inside, whichever is greater; floors and curbing constructed of Portland cement, concrete, or a continuous, smooth, non-porous surface which prevents or minimizes penetration of PCBs; no drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area. An inspector may check the floor and curb for cracks, measure to verify that the curb is at least 6 inches high, and check the capacity of the containment storage area against the total volume of PCBs in storage. He/she may also determine the 100-year floodplain location with respect to any storage area. Many ship scrappers are located within the 100-year floodplain and cannot have storage areas.

India is not known to be applying this safeguard.

- Facilities are required to properly label all PCB materials. The large PCB mark must be used to mark all PCB items and areas where PCBs are being stored. All PCB storage areas, including your PCB storage facility, 30-day temporary storage, and pallet storage, must be clearly marked. Marks must be placed on the exterior of the storage areas so that they can be easily read by any person inspecting or servicing the storage areas.

India is not known to be applying this safeguard.

- Facilities are required to use special designated containers for the storage of PCBs that comply with the U.S. Department of Transportation (DOT) Hazardous Materials Regulations.

India is not known to be applying this safeguard.

- Facilities must manage PCB storage so that PCB articles and PCB containers can be located by the date they were removed from service for disposal. Therefore, all PCB articles and containers must be dated when they were removed from service for disposal, including 30-day temporary storage and pallet storage. You must also develop and maintain records that document it is following all of the PCB storage and disposal requirements. These records will form the basis for the required "Annual Records" to be prepared by the facility.

India is not known to be applying this safeguard.

- Facilities must follow regulations regarding both accidental and intentional releases of PCBs to the environment. In the event of improper disposal of PCBs in concentrations of 50 ppm or greater (or when material with concentrations now less than 50 ppm became that way through dilution), EPA has the authority to compel persons to take action to rectify any damage or clean up the resulting contamination. Spills of liquids containing *any amount* of PCBs are subject to regulations. Under the spill policy, your facility is required to report the following PCB spills to the appropriate EPA Regional Office of Pesticides and Toxic Substances in the shortest possible time after discovery, but in no case later than 24 hours after discovery:

- All PCB spills, 50 ppm or greater, which contaminate surface waters, sewers and sewer treatment plants, private or public drinking water sources, animal grazing lands, and vegetable gardens.
- All PCB spills, 50 ppm or greater, involving 1 lb. or more pure PCBs (by weight) (e.g., approximately 1 pound of Askarel).

India is not known to be applying this safeguard.

The above is provided in some detail to summarize the types of controls that are necessary to safely manage the serious risks imposed by PCBs and to make it very clear that India remains very far away from being able to provide this type of waste management rigor that will be required for the PCBs expected to be found on board the *Clemenceau*.

Further, the Stockholm Convention now requires that POPs, such as PCBs, must not be dumped or burned, recycled or deposited in landfill. They must now in accordance with the Stockholm Convention only be “*disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants.*”

And yet India does not possess such destruction technology anywhere in the country.

## Legal Implications

BAN has prepared a document elaborating the legal implications of France's export of an asbestos and PCB laden vessel to India.<sup>10</sup> Below we further summarize that document with the most salient facts with respect to PCBs and France's violations of international, European Union and Indian laws.

### European Waste Shipment Regulation (WSR)

Under Article 16 of the WSR, PCBs are listed as waste constituents for which export to countries outside of the OECD/EU group in concentrations greater than 50 ppm are strictly illegal. This prohibition is the EU's implementation of the Basel Ban which both the European Commission and France have ratified. France has tried to sidestep this clear ban, by the outrageous claim that the ship is not a waste. However case law in the EU has already shown that a ship can be a waste when it is destined for breaking. The claim that because the *Clemenceau*, is of military origin, that it cannot be a waste is without legal merit. For example in another case where the US wanted to export vessels to another EU state, the UK (4 Ghost Fleet vessels exported to Able UK shipyards) required that these military vessels follow procedures as required in the EU waste shipment regulation. (France's export of the *Clemenceau* is a blatant violation of Article 16 of the WSR).

### Basel Convention

First it must be understood that a lack of testing, cannot excuse France from its Basel obligations. Ignorance of the presence of PCBs is no excuse under the law. The Basel Convention requires that all waste exports be correctly characterized. The absence of pertinent data cannot be seen as: “*a transboundary movement of hazardous or other wastes conforming in a material way with the documents*” as required by the Convention.<sup>11</sup>

Thus when France reports that there are no PCBs in solid matrix form, unless they actually conduct tests to determine if that is indeed the case, they are not excused from the intent of the Basel Convention which requires a full characterization of waste in question prior to export. .

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<sup>10</sup> “France's Export of Decommissioned Aircraft Carrier *Clemenceau* in Violation of International, and National Law,” BAN, 12 January 2006. Available at: [http://www.ban.org/pdfs/ban\\_clemenceau\\_summary\\_of\\_violations.pdf](http://www.ban.org/pdfs/ban_clemenceau_summary_of_violations.pdf)

<sup>11</sup> Basel Convention, Article 9,1,d. Illegal Traffic,

Further, any transboundary movement of hazardous wastes or other wastes that obtain consent from “States concerned through falsification, misrepresentation or fraud” is illegal traffic under the Convention. It can be considered that claiming an absence of PCBs as France has done both to Egypt and to India is in fact “misrepresentation”.

As PCBs above 50ppm concentrations fall within the scope of the Basel Convention when there is intent to dispose of these materials, the export outside of the Basel regime constitutes illegal traffic under the Convention if these PCBs do in fact exist on the vessel. What follows are the areas where the export of PCB (and asbestos) wastes to India by France is clearly illegal:

1) France’s claim that a ship, being a military material, is somehow not a waste is without legal merit. No such exemptions exist in the Basel Convention or elsewhere in international law. (France has misrepresented the fact by claiming an illegal non-existent exemption)

2) The ship is clearly a waste and a ship at the same time as it is a material or object and there is clearly intent to dispose – the requisites for defining waste in the Basel Convention. As a waste containing asbestos and likely PCBs over 50ppm, the *Clemenceau* falls under the Basel Convention’s scope of hazardous waste. The following are the 5 listed Basel requirements found in its Article 9, the absence of which constitutes illegal traffic. France has likely failed on all counts:

- Prior to export, the transboundary movement must be notified to all transit states and the importing state prior to leaving the exporting state. (France failed to do this)
- Consent to import and allow transit of a Basel waste ship from the states concerned must be obtained prior to export (France failed to do this)
- Getting consent from an importing or transit state through falsification, misrepresentation or fraud is illegal traffic. (France got consent from Egypt to pass the Suez Canal after sending them a communiqué stating that the ship contained no PCBs, when in fact the ship had never been tested for solid PCBs.)
- Shipments of waste that do not conform in a material way with the documents (the documents refer to the fact that the waste must be fully characterized with a tool such as an inventory as required in the Convention in Article 6) (France has not tested the *Clemenceau* for likely contaminants such as PCBs in solid form, and thus the export does not conform with the documentation)
- The export cannot result in the deliberate disposal of hazardous wastes or other wastes in contravention of the Convention. (France’s denial of the PCB problem and the capacity of India to manage this problem will result in deliberate disposal in a manner which is not environmentally sound management as required in the Convention)

Further, it must be noted that the Basel Convention also requires that no transboundary movement can occur without assurances that the destination facility is engaged in environmentally sound management as defined in the Convention. These requirements are laid out in Article 4; paragraph 2 (e) and (g). In this regard it is noteworthy to understand the internationally recognized fact that the shipbreaking yards in Alang do not constitute environmentally sound management as required under the Convention.

This is precisely why the Basel Convention produced Guidelines for the ESM for the full and partial dismantling of ships which specified steps by which the existing yards found in India and in other developing countries are to undertake in order to fulfill the objective of environmentally sound management. And the steps to date as delineated in that guideline have not been accomplished in full. While it may not be politically correct to state it so bluntly, it is a well known fact that the beach shipbreaking yards of South Asia cannot be considered ESM under the Convention. The Convention defines ESM broadly as:

*“taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes.”*

By any environmental and occupational health accounting, it cannot be seen that the yards in Alang are taking all practical steps to ensure protection of human health and the environment from the PCBs likely to be onboard the vessel. A mere look at some of the requirements that exist in the United States in comparison to what now takes place at Alang is demonstrative of this fact. (France has failed to ensure environmentally sound management for PCBs in Alang)

### **Stockholm and Rotterdam Conventions**

Assuming for the moment that France was correct in their assertion that the *Clemenceau* was not a waste, even if this were true, which it is not, the Stockholm and Rotterdam Conventions must apply. These Conventions likewise do not possess any military exemptions and they deal with products as well as wastes. If something is not a waste, then by default definition it is a product.

The Rotterdam Convention to which France and India are both full Parties and thus obligated by it, requires that PCB exports must follow a strict prior-informed-consent regime so that notification precedes consent and consent precedes export. (France is thus in violation of the Rotterdam Convention if indeed the ship is not a waste)

The Stockholm Convention, to which France is a Party, requires that PCBs can only be exported for disposal as required under the Convention and they must follow the Basel or Rotterdam Conventions. And most importantly the disposal must not be a form of recycling, a form of deposit or burning but rather *“Disposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants”*. Such sophisticated POPs disposal is not known to exist in India. (France is thus in violation of the Stockholm Convention)

### **Indian Supreme Court**

In its “Directions of the Supreme Court on Ship Breaking No. 657/95” the Indian Supreme Court delineated the following relevant provisions that must be followed in India.

1. *Before a ship arrives at port, it should have proper consent from the concerned authority or the State Maritime Board, stating that it does not contain any hazardous waste or radioactive substances. AERB should be consulted in the matter in appropriate cases.*

2. *The ship should be properly decontaminated by the ship owner prior to the breaking. This should be ensured by the SPCBs.*

[...]

13. *A complete inventory of hazardous waste on board of ship should be made mandatory for the ship owner. And no breaking permission should be granted without such an inventory. The inventory should also be submitted by the GMB to concerned SPCBs to ensure safe disposal of hazardous and toxics waste.*

[...]

16. *At the international level, India should participate in international meetings on ship breaking at the level of the International Maritime Organization and the Basel Convention's Technical Working Group with a clear mandate for the decontamination of ships of their hazardous substances such as asbestos, waste oil, gas and PCBs prior to exports to India for breaking. Participation should include from Central and State level.*

On 25 February 2005 the Gujarat Pollution Control Board issued an order NO: GPCB/HAZ/Gen-66(12)/5826 referring to the above, with three points:

1) *No Permission shall be granted for beaching "Clemenceau" till direction given by Supreme Court in WP 657 of 1995 in its judgment dated 14th October 2003 are complied with regard to Hazardous Waste including Asbestos and Radioactive substances, and in terms of other relevant direction there too.*

2) *Further no beaching permission shall be granted without prior approval of this Board.*

3) *In the event the ship making its way to Alang after decontamination, if any Asbestos is generated during the breaking of the ship the same shall be re-exported and shall not be allowed to be disposed of in any TSDF in the state of Gujarat or anywhere else in Indian.*

It is clear that the *Clemenceau* exporters have failed to adhere to point 1 above as the export scheme has failed to:

- Achieve consent based on a claim that there is no hazardous waste on board
- Properly decontaminate the vessel prior to export
- Provide a complete inventory of hazardous waste on board.

(France has clearly violated the provisions of this order)

## **Recommended Actions**

1. India must never allow France to export the *Clemenceau* to India without first having fully quantified by independent survey, the presence and amount of solid PCBs on the ship to ascertain whether their claim of "no PCBs" made by the French is true or false. If PCBs are found then the export is a violation of either the Basel Convention or the Rotterdam Convention. If testing does not occur the export is likewise illegal. And in either case the export is a violation of the Indian Supreme Court order.
2. France must renounce its false claim that the ship is not a waste and must take the ship back to France at once as its export is a clear violation of Article 16 of the European Union Waste Shipment Regulation.
3. France must conduct a full and impartial independent survey of all expected contaminants on board the ship as part of its construction, and then explore ways to decontaminate the vessel in France prior to any onward export for steel recycling.
4. India must not allow itself to be bullied into accepting what is clearly an affront to international law and human rights. They have a long list of legal reasons to deny the shipment. If they fail to do

so, they reveal themselves to be corrupted by an industry with a dismal track record for concern over human health and the environment or international law.

END

**For more information:**

“France’s Export of Decommissioned Aircraft Carrier *Clemenceau* in Violation of International, and National Law,” BAN, 12 January 2006.

[www.ban.org/pdfs/ban\\_clemenceau\\_summary\\_of\\_violations.pdf](http://www.ban.org/pdfs/ban_clemenceau_summary_of_violations.pdf)

Comments on Statement of French Government on Clemenceau by the Basel Action Network on Behalf of the Greater Coalition Demanding Return of Clemenceau to France for Decontamination, BAN, 24 January 2006.

[http://www.ban.org/pdfs/statement\\_of\\_french\\_government\\_on\\_clemenceau.pdf](http://www.ban.org/pdfs/statement_of_french_government_on_clemenceau.pdf)