



NGO platform
on shipbreaking



Comments on the Indian Committee Inspection Report on the Hazardous Materials onboard the *SS Blue Lady*

July 31, 2006

Executive Summary:

On July 11, 2006, a committee created by the Gujarat Pollution Control Board boarded the former cruise liner *SS Blue Lady* to verify the presence of hazardous wastes present in the vessel.

It must be noted from the start that it should not be the responsibility of Indian authorities to provide a hazardous waste inventory of vessels entering Indian territory for recycling or disposal. The Basel Convention Guidelines and the International Maritime Organization (IMO) guidelines both call for a full inventory to be provided at the expense of the ship owners, prior to arriving in Indian territory. It is inappropriate for India to be paying for this and conducting this investigation which by law must precede import. While there allegedly was an inventory provided by GEPIL (M/S Gujarat Environment Protection and Infrastructure), there is no evidence to support that such an assessment was adequate, nor that it was properly submitted to the competent authorities of the exporting and importing countries as required by the Basel Convention, *prior* to exportation.

After a 2-day inspection, the technical committee (Committee) concluded that:

- *The team [Technical Committee] did not observe any hazardous material in loose form on Board except oil rags. The deck wise cross verification of the assessment carried out by GEPIL and the pre-assessment of the team lead by Shri Tai was carried out and the GEPILs report and the pre assessment reports were found in order.*

- *No other hazardous material of any kind or quantity was found that cannot be safely removed, handled and disposed of at Alang.*

Apart from the inappropriateness of the survey which should have been concluded prior to import, the conclusions put forward by the Committee are seriously flawed in their pre-disposition to the belief that only "loose", cargo-like material can cause or is otherwise of legal relevance. Further flaws are revealed in their presumptions based on the absence of real evidence that the in-construction hazardous materials can be managed in an environmentally sound manner in the shipbreaking yards of Alang or elsewhere in India.

The report thus submitted without corroborating evidence is thus lacking in scientific rigor and makes a mockery of appropriate public policy which should always be aimed to maximize worker and environmental protection and appears to reveal industry and governmental collusion at the expense of public welfare. The following points are elaborated in this document:

The Committee failed to utilize two previous technical inspections on the SS Blue Lady. In 2004 Tecnicas, a French company was given access to all of the *SS Blue Lady's* ship plans and documents. The Tecnicas study outlines the areas where the asbestos are present. The second inspection conducted by another French company inspected the *SS Blue Lady* as it was docked in the Port of Bremerhaven, Germany in 2005. The second inspection among others revealed airborne asbestos contamination in several decks of the *SS Blue Lady* as well as identified the presence of PCBs. The findings of these two studies should have been used as a baseline for the Committee's work.

Visual inspection alone can not verify or detect hazardous wastes on board the SS Blue Lady: The visual inspection that appears to have been the sole source of data gathering relied on by the Committee is inadequate to properly assess the various hazardous materials on board the *SS Blue Lady* because most of these toxins of concern are not visible to the naked eye, and would need proper sampling and laboratory testing to verify their presence. For instance, airborne asbestos in the decks of the *SS Blue Lady* is not humanly possible to be seen by the Committee. A German inspection team earlier confirmed the presence of airborne asbestos in several decks of the *SS Blue Lady*. Clearly the Committee failed to take this into account as they have not noted this in their observations nor in their own precautionary measures to protect their own health.

Proper sampling and laboratory testing are needed not only for asbestos, but also for other toxins such as, polychlorinated biphenyls (PCBs), Cadmium, Azocolourants, Azodyes, Chromium compounds, Mercury compounds, Polybrominated Diphenyl Ethers (PBDE), Polybrominated Biphenyls (PBBs), Tributyls, Heavy Metals, and other hazardous substances and biological contaminants such as invasive species that could be present in the bilge waters or bottom. Oddly the report seemed to note the presence of PCBs in paints etc. but it is unclear how this finding was made as there is no mention of laboratory analysis for PCBs. PCBs cannot be identified by visual inspection. Even if the guesswork of the Committee is correct in identifying the presence of PCBs which is a highly probable guess, there is no effort to ascertain the concentrations or quantities of such materials in various solid matrices and materials onboard the vessel. This fact is also true of the asbestos. The lack of such information can prove deadly to the workers on the ground.

The NGO Platform on Shipbreaking is also concerned that the Committee targeted the inspection primarily for "loose" materials onboard the vessel. The Committee seems to be unconcerned with the fact that the shipbreaking hazards of concern are almost always found within the structure of a vessel. This is a matter of concern from an environmental and human health standpoint as well as a legal one, as waste definitions in the Basel Convention and elsewhere are not confined to free standing, or "loose"

characteristics. Waste is broadly defined internationally by materials that are destined to be disposed or recycled in processes listed in the Convention's Annex IV. Recycling of metals which is the prime rationale for shipbreaking is listed in Basel's Annex IV and thus clearly defines the ship and its cargo as waste when it arrives at such processing facilities. By focusing only on "loose" materials, vast amounts of PCBs imbedded in ventilation gaskets, paint, rubber, etc., the Committee's bias blinds them to the greater threat posed by the imbedded toxins within the vessel (in-construction materials).

The claim that hazardous materials such as asbestos and PCBs can be safely removed, handled, and disposed of in Alang is hardly substantiated and flies in the face of what India themselves have admitted in international arenas and is in fact the reality on the ground in Alang. The lack of evidence establishing this new sudden assertion is disturbing. All the Committee has provided are verbal statements of satisfaction, denying past governmental admissions to the contrary and this time without any substantive evidence comparing global norms to what is actually practiced in Alang. In particular, the Committee needs to substantiate that India possesses acceptable destruction technology for asbestos removal and disposal as well as for PCBs compliant with the requirements of the Stockholm Convention on Persistent Organic Pollutants. For example the Stockholm Convention requires unique PCB destruction technology and forbids the burning or landfilling of PCBs. Yet it is not believed that India possesses such technology.

Indeed, the recommendations of the Committee can not be accepted in a legal vacuum. There are outstanding legal requirements, such as the Supreme Court Order No. 657/95, as well as the obligations on India due to their having signed and/or ratified the Stockholm and the Basel Conventions and their decisions and guidelines. For example, both the supreme court order and the Basel Convention guidelines for example, call for decontamination prior to the final voyage of a vessel. As India co-authored these guidelines and the guidelines are almost completely concerned with the in-construction contamination, the Committee's recommendations are seen as in direct contravention to India's previous assertions, and established legal norms and guidelines provided by international legal bodies.

Introduction – The Indian Inspection Committee and its Conclusions

On July 1, 2006, the Gujarat Pollution Control Board (GPCB) appointed a 6-member committee (Committee) to verify all hazardous materials on board the *SS Blue Lady* and the assessment submitted by the M/S Gujarat Environment Protection and Infrastructure Limited (GEPIL).

The Committee carried out the inspection of the *SS Blue Lady* in two phases, a pre-inspection and verification phase. The pre-inspection team headed to the *SS Blue Lady* on July 7, 2006, 25 nautical miles off of the Pipavav Port. Pre-inspection started in earnest on July 8 and ended in July 10th.

On July 11, the Committee boarded the *SS Blue Lady* to verify and cross check the pre-inspection team's report as well as the GEPIL report. The following day the Committee visited the Alang-Sosiya Ship Breaking Yard to inspect the removal, handling, and disposal of asbestos containing materials (ACM).

After its inspection, the Committee submitted its report to the GPCB with the following conclusions:

- *The team did not observe any hazardous material in loose form on Board except oil rags. The deck wise cross verification of the assessment carried out by GEPIL and the pre-assessment of the team lead by Shri Tai was carried out and the GEPIL's report and the pre assessment reports were found in order.*

- *No other hazardous material of any kind or quantity was found that cannot be safely removed, handled and disposed of at Alang.*

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Thus committee is of the opinion that safe removal, handling and disposal of asbestos, ACMS, PCBs and other hazardous waste can be done at Alang.¹

The conclusions arrived at so hastily and in the absence of known data and data that should have been gathered by the Committee serve to highlight their bias, and expose the flaws in the methodology used in their inspection.

For one thing, it is impossible to know whether the assessment carried out by GEPIL et al, was truly in order when this assessment has not been attached. It also raises more doubts than assurances, particularly with the environmentally sound management of polychlorinated biphenyls (PCBs) and asbestos is concerned as well as adherence to international and national laws and norms.

The NGO Platform on Shipbreaking raises the following concerns over the conclusions arrived at by the Committee.

1. Visual inspection can not detect toxic materials, such as airborne asbestos o rasbestos and polychlorinated biphenyls (PCBs) within the structure of the SS Blue Lady.

The Inspection Report (Report) indicates that both teams, pre-assessment and verification, “observed”, and conducted visual estimates of toxic materials on board the vessel. The Report did not indicate using any other method of determining the presence of toxins other than “ocular” observations. The main tools brought by the team in the inspection are, “laptop along with printer and stationary material to generate on the spot daily reports. With a view to capture visual details, the team also carried with it still digital camera and Video Camera (Handy cam).”²

Vessels contain toxic materials ranging from asbestos, cadmium, mercury, lead, chromium, antimony, and fuel and bunker oil. (*See Annex 1 of this report for a list of toxic wastes in vessels*). A majority of the toxins of concern, unfortunately, are not visible to the naked eye and can only be accurately determined through sampling and laboratory testing.

Asbestos for example is a very serious concern in end-of-life vessels and are microscopic particles and a single fiber of asbestos magnified 1,000 times looks slightly larger than a strand of human hair. These fibers are microscopic particles and are measured in microns (there are 25,400 microns in an inch). Asbestos fibers longer than 5 microns and thinner than 0.5 microns are considered more dangerous by the US Environmental Protection Agency because they are more difficult for the body to expel.³

There may be instances where it is possible to guess that a particular insulating material, e.g. around a steam pipe, may contain asbestos. However, in instances where asbestos fibres have been disturbed and released in the atmosphere, it is virtually impossible to see or even hazard a guess as to their presence. The concern over airborne asbestos particles is very real in this case due to the fact that an

¹ Inspection Committee Report, pp. 20-21.

² *Id* at p.14.

³ <http://www.epa.gov/region8/superfund/libby/sampling.html>

explosion in the engine room occurred in 2003 and created an airborne asbestos hazard of great significance. This issue was raised in a July 16, 2006 letter by Mr. Briac Beilvert, CEO of the French company, Ship Decommissioning Industries SAS (SDI) to the Indian Ministry of Environment. Mr. Beilvert discloses in the letter that SDI had a technical team inspect the *SS Norway* while it was at the Port of Bremerhaven, Germany in 2005. (See Annex 2 for a copy of the letter). SDI expressed great concern that due to the explosion in the engine room asbestos fibers have been released into the atmosphere of the vessel actively polluting several decks.

PCBs are another major concern on vessels built before the 1980s such as the *SS Blue Lady* (ex-Norway), commonly used PCBs in their structure before this substance was widely banned. PCBs are toxic persistent organic pollutants that have been slated for global destruction and production bans (Stockholm Convention). Although asbestos has a more immediate impact on workers, we focus our discussion on PCBs at this point due to the fact that seemingly, Indian authorities are unconcerned or lacking in awareness of the risks posed by PCBs aboard obsolete vessels.

What are PCBs?

According to the US Environmental Protection Agency:⁴

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 chemical structure and similar physical properties. PCBs...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.

[US] 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 [Occupational Safety and Hazard Administration] regulations governing exposure to PCBs in the workplace. (Emphasis supplied)

⁴ Indented excerpts in italics that follow come from "A Guide for Shipscrapers: Tips for Regulatory Compliance," Summer 2000, USEPA. Found at: <http://www.ban.org/Library/scrap.pdf>

Most scientists believe that there is no safe level of exposure to PCBs.⁵

How much PCB contaminated materials are present in the SS Blue Lady?

In its Report, the Committee, pointed to several areas where PCBs could be found, e.g. some floorings, some painted surfaces, and even hinted that electrical cables on the vessel may be contaminated with PCBs. The human health and environmental impact that can be caused by PCBs must not be left to a guessing game, as the Committee is seemingly doing. The Committee had no way of determining where precisely the PCBs occurred, the concentration of the PCBs nor the quantity of PCB contaminated material onboard without laboratory analysis of many sample areas onboard the vessel. Ship plans will not identify PCBs nor will visual inspection.

It is outrageous that given that fact, the committee can conclude that the PCBs can be treated without problem in Alang. Apart from the capacity of Alang to manage PCBs, which is doubtful at best, it is impossible for any facility or work force to manage such wastes in the absence of precise knowledge of where and what is to be managed. It is absolutely vital that the owners of the vessel provide a full inventory of all hazardous materials prior to its importation into India. Failure to do this is a violation of the Basel Convention and IMO guidelines not to mention the International Chamber of Shipping's code of conduct.

Knowing the quantity and location of PCBs and other toxins is critical as it impacts the workers involved, the precautions necessary and the disposal options available for these hazardous wastes in India. For example, which Indian facility can take in at least 783 tonnes of PCB contaminated materials that could possibly be generated from the *SS Blue Lady* (see Table 1 below)?

The Stockholm Convention disallows normal incineration and landfilling of PCBs and requires destruction technology that is globally, relatively rare. Indeed we can find no reference for PCB destruction capacity in India. If none exists, government officials are therefore faced with the task of determining other environmentally sound options (e.g. export) for this very significant volume of PCB wastes.

Table 1
Comparative Table of Vessels
with their Asbestos and
Materials Containing non-liquid PCBs

Name of Vessel	Vessel Type	Year Launched/ Commissioned	Lightweight (Tonnes)	Asbestos (Tonnes)	Non-Liquid PCBs (Tonnes)
Blue Lady	Cruise Ship	1962	37,625	1,200	?
Clemenceau	Aircraft Carrier	1957	24,772	Over 500	783
Oriskany	Aircraft Carrier	1950	25,129	Over 500	795
Canisteo	Oiler	1945	14,705	61	34
Donner	Landing Ship Dock	1945	5,910	75	14
Protector	Radar Station Ship	1957	6,194	85	24
Compass Island	Auxiliary Ship	1953	15,057	252	47
Canopus	Submarine Tender	1965	12,618	252	286

⁵ See at:
<http://yosemite.epa.gov/R10/OWCM.NSF/88fa11a23f885ef3882565000062d635/a9578719c73ad1de882569ed00782e89!OpenDocument>

In spite of the absence of a complete hazard inventory, the previous cases of the American "Ghost Fleet"⁶ and the French aircraft carrier "Clemenceau"⁷ have provided us some data on the toxins and quantity carried by vessels of pre-1979 vintage. Table 1, above, compares the asbestos and PCB containing materials of several vessels of the "Ghost Fleet", "Clemenceau", and the *SS Blue Lady*. Immediately noticeable is the quantity of the asbestos present in the *SS Blue Lady*, outweighing the two military aircraft carriers. Thus, it is highly likely that there is likewise more or at least equivalent PCB contaminated materials and other toxins on board the *SS Blue Lady* due to its sheer size alone.

Where are PCBs Found on Ships?

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), which are impossible to see with the naked eye, include:

- *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*

Experts have stated that the highest concentrations of PCB's are usually found in gasketing materials in ventilation systems, as 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.⁸ Given the deadly nature of PCBs and its impact on the workers, communities, as well as the marine environment both within Alang and beyond, it is crucial that the Indian authorities be fully apprised of the quantity and locations of these toxins.

It is only fitting for the lives of the Alang workers at stake that any inspection of the *SS Blue Lady* be conducted with utmost accuracy and dependability. Guess work, such as what the Committee performed, has no place in the equation between life and death. Lives and the environment are at stake, not only for the present, but for future generations as well.

⁶ See BAN's Report on the US Ghost Fleet, entitled "Needless Risk: The Bush Administration's Scheme to Export Toxic Wastes to Europe", at: <http://www.ban.org/Library/Needless%20Risk%20Final.pdf>.

⁷ See BAN's Report on the French aircraft carrier Clemenceau, entitled "The French Deception: PCBs and the Clemenceau", at: http://www.ban.org/Library/the_french_deception.pdf.

⁸ E-mail with Werner Hoyt PE, 24 January 2006.

2. *The inspection team's focus on loose hazardous materials is simply misguided as it ignores the fundamental hazardous waste constituents found in in-construction materials.*

According to the Report, one of its objectives is "to identify, assess presence of any hazardous material in loose form onboard."⁹ The obsession with this type of waste, which is usually a tiny proportion of the overall hazardous materials present on a ship and easily removed, is indicative of a regressive, revisionist wish on the part of some Indian authorities to deny that in-construction materials on a ship are in fact a waste. Thus, at a very early stage, the Committee has already shown its bias – and persists in perpetuating a myth believed by nobody and in fact repudiated by the Basel Convention ship dismantling guidelines which India co-authored. In those guidelines almost no mention is afforded concern over cargo type wastes but in fact the thrust of the global concern and drive for legislation and controls always was about in-construction materials.

The Committee persists in ignoring globally accepted norms embodied in the Basel Convention on the Transboundary Movement of Hazardous Waste and Their Disposal (*see full discussion on Basel Convention, Section 5 below*). By mostly narrowing the scope of its inspection to hazardous materials in loose form onboard, the Committee ignores the very fundament established under the Basel Convention for determining whether a waste is toxic or not - that the toxicity of any given material lies within its constituent or the property or characteristic of the material, e.g. flammable, explosive, eco-toxic, etc and is destined to be disposed of in an Annex IV destination (e.g. metals recycling facility). Simply, the fact that a barrel of PCBs might be found in a barrel on an open floor, or in a barrel welded to the vessel, or impregnated into the paint of the ship has no meaning under international law or in science. The hazard must be dealt with and is quite real for all that might be charged with so doing.

All of the toxic materials that are "secured" or imbedded in the ship's structure have the potential to become "loose" as the vessel gets dismantled. Once the breaking operations start, toxins will be released. For example, industry experts have opined that asbestos contaminated materials will increase by a factor of 10 because of the methods utilized in Indian breaking yards.¹⁰

In an extensive PCB sampling and study conducted by the US Navy on one of their obsolete aircraft carriers, the ex-Oriskany (built in 1952), it was found that 95% of the PCB contaminated materials were in the electrical cables.¹¹ The total weight of the PCB contaminated cables amounted to 329 tonnes. The electrical cables found in the ex-Oriskany were very secure and could not be considered "loose material" (*see image on following page*).

In the case of the Oriskany, the Navy opted for a disposal method, however misguided, (ocean disposal) in large part to avoid the high cost of mitigating the occupational exposure to PCB contaminated material which would have made any profit from the vessel impossible. Indeed an examination of the methodology required to manage shipboard PCBs is very complex and requires substantial infrastructure even prior to final destruction.

⁹ Inspection Report, p. 8.

¹⁰ See at www.ban.org. Memo submitted to the NGO Platform on Shipbreaking, Prepared by A Mr. Aage Bjørn Andersen, which was then submitted to Indian Technical Committee on Shipbreaking, dated June 26, 2006.

¹¹ 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-draftfinal.pdf>.

3. Environmentally Sound Management of PCBs and Asbestos is not currently possible in Alang

The Committee makes a broad observation at the end of its Report, "that safe removal, handling and disposal of asbestos, ACMs, PCBs and other hazardous waste can be done at Alang."¹²

A. International Opinion and Indian Admission

In June 26, 2006, industry expert, Mr. Aage Bjørn Andersen of MetaFil AS, a Norwegian company that focuses on developing maritime environmental technologies, raised the following concern on the capability of the Alang facilities in handling asbestos in a memo submitted to the Indian Supreme Court:

*"If asbestos is removed by the current methods (in India), it is not unlikely that the amount of contaminated material will increase with a factor of 10. This is primarily due to inability to isolate the substance both in association to actual removal but also in relation to transportation and storage..."*¹³ (Emphasis supplied)

Indeed, it is an internationally recognized fact that the shipbreaking yards in Alang, India and others in South Asia do not constitute environmentally sound management as required under the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal (Basel Convention).

This is precisely why the Basel Convention produced the Technical Guidelines for the Environmentally Sound Management (ESM) of the full and partial dismantling of ships¹⁴ (Basel Guidelines) which specified steps by which existing yards found in India and in other developing countries are to undertake in order to fulfill the objective of environmentally sound management. Indeed throughout the negotiations of these technical guidelines that were co-authored by India and Norway, delegates from India, Pakistan or Bangladesh never made the claim that the South Asian beaches are considered environmentally sound management as defined in the Convention. The delegates, in fact, acknowledged the lack of ESM capacity in their nations. Where is that acknowledgement now?

India in particular noted the following regarding the state of ESM shipbreaking in its territory as follows:

Insufficiencies relating to workers' health and safety and protection of the environment have been affirmed by several independent assessments at both Alang and other ship-breaking sites...

*Soil and sediment samples from the investigations undertaken, have revealed high concentrations of heavy metals, asbestos, PAH, and tributyl tin (TBT). A lack of waste reception and disposal capability have been revealed and particular focus has been drawn to the careless handling of hazardous substances such as ACM. Workers at the dismantling sites in Alang are exposed to these contaminants 24 hours a day, living as they do within the immediate vicinity of their workplace.*¹⁵ (Emphasis supplied)

¹² Inspection Report, p. 5.

¹³ *Supra* note 9.

¹⁴ Available at: <http://www.basel.int/ships/techguid.html>.

¹⁵ *Id.* at 36.

The Basel Guidelines further mentions the 2001 report issued by the High Powered Committee (HPC) on Management of Hazardous Wastes that was constituted by the Supreme Court of India, saying that:

“...[T]here is an enormous need for improvement of the existing hazardous waste situation in India. The HPC also provides recommendations on certain steps to be taken to ensure that ships coming to India for ship breaking are properly decontaminated prior to arrival at port. Examples of such steps are:

- *that the ship has proper consent from the concerned authority or the State Maritime Board stating that it does not contain any hazardous waste or radioactive substances.¹⁶ (Emphasis supplied)*

The Basel Guidelines that India co-authored clearly reveal that as early as 2001 India has acknowledged the absence of proper ESM in the shipbreaking yards in Alang. It also mentions of the work of the HPC highlighting the vital need of decontaminating all incoming end-of-life vessels to India.

Yet, in a short span of 5 years the Committee has made a sweeping statement that “safe removal, handling and disposal of asbestos, ACMs, PCBs and other hazardous waste can be done at Alang” and have provided no evidence to assert that such sweeping changes have been made.

Will the government submit to an independent assessment of such facilities made up of international occupational safety and health experts? We wonder.

B. ESM of PCBs - India and US Comparison

Even if we were to assume that the much discussed asbestos disposal question were able to be answered satisfactorily under current conditions, and asbestos removal could in fact meet international standards for worker safety and environmental protection which remains in very serious doubt, there is still the gaping question of PCB removal and disposal that must be addressed. India simply does not have the capability to address the PCB problem in an environmentally sound manner at par with international law.

Comparing present Indian practices side-by-side with the United States EPA’s Guide for Ship Scrappers, we observe the ESM discrepancy as follows:

US EPA PCB Requirements	Practice in India
<p>Facilities must ensure that workers are protected from exposure to airborne PCB concentrations. OSHA (US Occupational Health and Safety Administration) regulations governing exposure to PCBs in the workplace include two time-weighted averages for chlorodiphenyl. These are:</p> <ul style="list-style-type: none"> ▪ 1.0 mg/m3 of workplace air over an 8-hour work shift for chlorodiphenyl containing 42 percent chlorine. ▪ 0.5 mg/m3 of workplace air over an 8-hour work shift for chlorodiphenyl containing 54 percent chlorine. <p>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/m3.</p>	<p><u>India is not known to be applying this safeguard.</u></p>

¹⁶ *Id.*

<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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 <i>Sampling Ships for PCBs Regulated for Disposal (Interim Final Policy, November 30, 1995)</i>, 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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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).</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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</p>	<p><u>India is not known to be applying this safeguard.</u></p>

<p>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.</p>	
<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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.</p>	<p><u>India is not known to be applying this safeguard.</u></p>
<p>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 <i>any amount</i> 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:</p> <ul style="list-style-type: none"> ▪ 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). 	<p><u>India is not known to be applying this safeguard.</u></p>

Based on this information, it is clear that the conclusion by the Committee that the Alang yards can safely handle PCBs is unfathomable. The NGO Platform on Shipbreaking is certain that the presence of PCBs in such significant quantities, at least 723 tonnes of PCB contaminated materials, can be expected to 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 and Stockholm Conventions, 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.

4. The Inspection Committee failed to take into account previous technical inspections conducted on the SS Blue Lady.

There are two outstanding studies that should have been utilized by the Committee in preparing its Report. First is the 2004 Tecnitas Study and the second, the inspection report developed by Ship Decommissioning Industries SAS (SDI).

In 2004, Tecnitas, a consulting company headquartered in Paris, France, was approached by Pierre & Vacances, a European company, to conduct a qualitative and quantitative study of the asbestos on board the *SS Norway* (now *SS Blue Lady*). Pierre & Vacances was interested in purchasing the vessel from its owner, Norwegian Cruise Lines (NCL), to convert it into a floating structure.

NCL gave Tecnicas full access to all of the *SS Norway's* ship plans and documents to complete its study. Tecnicas produced a document entitled, 'Etude de Désamiantage du Navire *SS Norway* (Study of the Asbestos Removal of the Ship *SS Norway*). The report Tecnicas produced is a private document, and its findings and recommendations have not yet been made available to the public. Notwithstanding, the Indian government could request Pierre and Vacances to given access and review the study.

The NGO Platform on Shipbreaking was apprised by informed sources that the study estimated that at least EUR 17 million would be needed to remediate just a portion of the asbestos in the *SS Norway*, covering only the partition walls, insulation, and briquetting.¹⁷ Informed sources further reveal that asbestos in paint, a product called "Bitumatic", was used in several areas of the *SS Norway*, e.g. water tanks, chain lockers, backside of port holes, etc.¹⁸

The SDI inspection is another definitive source of information that the Committee should have referred to. As mentioned previously, SDI conducted an inspection on the *SS Blue Lady* while it was docked in the Port of Bremerhaven, Germany. As discussed previously, the CEO of SDI wrote a letter to the MOEF raising his concerns over the presence of airborne asbestos particles in several decks of the *SS Blue Lady*. The CEO of SDI also mentions that their inspection team detected the following hazardous materials in the vessel: Cadmium, Azocolourants, Azodyes, Chromium compounds, Mercury compounds, Polybrominated Diphenyl Ethers (PBDE), Polybrominated Biphenyls (PBBs), Polychlorinated Be phenyls (PCB), Tributyls, Heavy Metals, Hydraulic and Lubricating oils and various other hazardous substances and materials. (see Annex 2 for a copy of the letter)

Clearly, two competent inspection teams have combed through the *SS Blue Lady* with far more technical expertise and detail than the 2-day inspection the Committee was able to provide. How is it possible that the Committee did not refer to existing data unless the intent was a "greenwash" of known facts about the *SS Blue Lady*?

5. The Recommendations forwarded by the Committee must be consistent and uphold Indian and international law and not contravene the law.

Supreme Court of India

In its Directions of the Supreme Court on Ship Breaking No. 657/95 the 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.*

[...]

¹⁷ Personal Communication between Greenpeace International and Pierre & Vacances, June 2006.

¹⁸ *Id.*

13. *A complete inventory of hazardous waste on board of ship should be made mandatory for the ship owner. And not 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.*

It is clear that the *SS Blue Lady* owners/exporters have failed to adhere to the following Supreme Court directives:

- Properly decontaminate the vessel prior to export; and
- Provide a complete inventory of hazardous waste on board.

The implication of the Committee's recommendation flies in the face of the Supreme Court order. The *SS Blue Lady* is not decontaminated, nor does it carry with it a complete inventory of hazardous wastes. By green lighting the dismantling of the *SS Blue Lady*, the Committee further subverts the Supreme Court Order, and would be allows massive quantities of toxins present in the vessel to be released in Alang.

Basel Convention Guidelines¹⁹

The Basel Convention Technical Guidelines on Environmentally Sound Management for Full and Partial Dismantling of Ships, which was co-authored by India with Norway acknowledged the need for pre-cleaning vessels prior to import when they stated that:

Hazardous wastes and materials such as asbestos, PCBs and TBT paints should, to the extent possible, be removed in best available facilities from the ship during its life cycle prior to its voyage for dismantling so that a minimal amount of this material will have to be dealt with during the breaking process.²⁰

This requirement is consistent also with the Basel Convention Ban Amendment which all Parties including India have been requested to ratify at the earliest opportunity. And yet India not only has chosen to ignore its own Supreme Court but the Basel Convention Guidelines it authored and the waste trade ban it once championed. India is rapidly getting the reputation as the country Party to that Convention suddenly willing to ignore all decisions, obligations and guidelines even when they were party to them or author of them. Is all of this being done to protect a shipbreaking industry that refuses to comply with international norms?

¹⁹ <http://www.basel.int/ships/techguid.html>

²⁰ Basel Guidelines, page 9.

Stockholm Convention²¹

India ratified the Stockholm Convention on January 13, 2006. As has been previously noted, older vessels, particularly those built before 1979, have a high-probability to contain very significant quantities of polychlorinated biphenyls (PCBs). Most of these PCBs are in solid matrix form and found in paints, gaskets, insulation materials, wiring, etc.

PCBs are listed in Annex A of the Stockholm Convention, and are targeted for global phase-out and follow a strict trade and destruction criteria. The disposal of the PCBs in the *SS Blue Lady* is thus, strictly controlled under Stockholm.

Article 3 of the Stockholm Convention severely restricts export and import of Persistent Organic Pollutants (POPs), such as PCBs:

Each Party shall:

(a) Prohibit and/or take the legal and administrative measures necessary to eliminate:

X X X

(ii) Its import and export of the chemicals listed in Annex A in accordance with the provisions of paragraph 2; and

Paragraph 2 of Article 3 of the Stockholm Convention states:

X X X

(b) That a chemical listed in Annex A for which any production or use specific exemption is in effect or a chemical listed in Annex B for which any production or use specific exemption or acceptable purpose is in effect, taking into account any relevant provisions in existing international prior informed consent instruments, is exported only:

(i) For the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;

(ii) To a Party which is permitted to use that chemical under Annex A or Annex B; or

(iii) To a State not Party to this Convention which has provided an annual certification to the exporting Party. Such certification shall specify the intended use of the chemical and include a statement that, with respect to that chemical, the importing State is committed to.

The main reason why the *SS Blue Lady* is now in India is for disposal, thus, only (i) above can apply. Below we proceed to examine the applicable provisions of Article 6:

X X X

²¹ Available at: <http://www.pops.int/documents>.

(d) Take appropriate measures so that such wastes, including products and articles upon becoming wastes, are:

(i) Handled, collected, transported and stored in an environmentally sound manner;

(ii) 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 or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant content is low, taking into account international rules, standards, and guidelines, including those that may be developed pursuant to paragraph 2, and relevant global and regional regimes governing the management of hazardous wastes;

(iii) Not permitted to be subjected to disposal operations that may lead to recovery, recycling, reclamation, direct reuse or alternative uses of persistent organic pollutants; and

(iv) Not transported across international boundaries without taking into account relevant international rules, standards and guidelines;

As noted previously, the shipbreaking yards of Alang, India, do not possess the technological means to dispose of PCBs 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".

It is clear from just the above summary analysis that since the *SS Blue Lady* contains PCBs, any order allowing the disposal of the PCBs in India would violate Stockholm for:

- Allowing the transport PCBs without taking into account relevant international rules.
- Failing to manage/dispose of PCBs in accordance with Stockholm.

Basel Convention²²

India is a party to the Basel Convention.

Basel defines hazardous wastes under Art. 1.1 as follows:

(a) Wastes that belong to any category contained in Annex I, unless they do not possess any of the characteristics contained in Annex III; and

(b) Wastes that are not covered under paragraph (a) but are defined as, or are considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit.

As mentioned previously, vessels contain hazardous materials. Most of these wastes are listed under Annex I of the Basel Convention, which provides that any material containing constituents such as, but not limited to, asbestos (Y36), PCBs (Y39), mercury (Y29), cadmium (Y26) is a hazardous waste *"unless they do not possess any of the hazardous characteristics listed in Annex III."*

²² See at <http://www.basel.int/>.

The *SS Blue Lady* is known to contain asbestos, PCBs and other toxic materials that are imbedded in its structure. The Committee's report testifies to the same fact. However, the Committee tries to put blinders on, and ignore the globally followed principles of Basel in determining whether a particular object is hazardous or not.

In 1997 the Basel Convention adopted Annex VIII containing the "A" list of waste streams that are presumed to be hazardous (i.e. possessing a hazardous characteristic). On this list are included for example the following listings:

*A2050 Waste asbestos (dusts and fibres);
A3180 Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration level of 50 mg/kg or more.*

(See Annex 1 of this paper for a listing of Basel covered hazardous wastes.)

Lastly, the Parties to the Basel Convention in their landmark Decision VII/26 also corroborated the hazardous waste character of obsolete ships further eliminating any uncertainty as to the application of the Basel Convention:

"Recognizing that many ships and other floating structures are known to contain hazardous materials and that such hazardous materials may become hazardous wastes as listed in the annexes to the Basel Convention,..."

While the above statement alone only points to the fact that the materials in question may be hazardous waste and does not clarify when such materials become waste, the next relevant statement in decision VII/26, makes it abundantly clear that a ship can be a waste and a ship at the same time:

"Noting that a ship may become a waste as defined in Article 2 of the Basel Convention and that at the same time it may be defined as a ship under other international rules."

The two statements together point to the conclusion reached by the Parties that end-of-life ships are, when intended to be disposed (article 2), *hazardous wastes* falling under the Basel Convention.

As such the ship should have been fully following the obligations of the Basel Convention and the Basel Ban Amendment which require inter alia full disclosure of all hazardous substances on board, and prior informed consent which due to the Basel Ban decisions II/12 and III/1 should have been denied. Any export in contravention of the Convention such as the export of the Blue Lady to India should be considered illegal traffic.

Recommendations:

The NGO Platform on Shipbreaking recommends the following:

- 1. In accordance with India's obligations under the Basel Convention, the IMO guidelines and Basel Convention Technical Guidelines, India must require the SS Norway (Blue Lady) to leave Indian territory at the earliest and safest opportunity and properly conduct and then submit a full hazardous waste inventory at the cost of the importer/owner. Such an inventory must include complete assessments of both cargo and in-construction hazardous substances and materials in accordance with the Basel Convention and IMO guidelines. Such an inventory must include information gathered from the two existing inventories already performed in Europe. Only until this inventory is received can India judge the legality of the import.*
- 2. India, in accordance with the Indian Supreme Court Decision as well as the Basel Convention Guidelines on ship dismantling, must require, following a characterization of the vessel and its constituents, full decontamination of any imported vessels prior to importation. This decontamination should be conducted in an OECD/EU country at a facility that is fully capable of managing all such wastes in the optimum manner described in the Guidelines set forth by the Basel Convention, the International Maritime Organization and the International Labor Organization.*
- 3. India, must convene a credible panel of international experts to properly assess the capacity of the shipbreaking infrastructure in Alang and elsewhere in India to conduct shipbreaking operations and downstream related waste management operations in full compliance with the Stockholm Convention, the Basel Convention guidelines, ILO and IMO guidelines. Such a panel of independent experts should be selected by a wide variety of stakeholders in the health and environment field internationally.*

- End -

Annex 1

(Taken from the Basel Technical Guidelines for Environmentally Sound Management of the Full and Partial Dismantling of Ships)

List of hazardous wastes and substances under the Basel Convention that are on board or inherent in the ships' structure when the vessel arrives at a dismantling site

The following list (Table 12) includes wastes and substances that may be inherent in the structure of the vessel when the vessel arrives at the dismantling site as well as an indication as to where on the vessel the wastes and substances may be found. The list is based on List A in the Basel Convention which contains wastes that are characterised as hazardous under Article 1, paragraph 1 (a), of the Convention. Their designation to Annex VIII in the Basel Convention does not preclude the use of Annex III to demonstrate that a waste is not hazardous. Wastes specifically listed on List B in the Convention are excluded.

Some of the entries in List A in the Basel Convention overlap so that some wastes are present in several ship components and vice versa. All entries in List A that may possibly be present in the ship structure are therefore not included. Electrical appliances, batteries, etc. are included on the list of wastes and substances that may be inherent in the structure of the vessel.

Table 11 Wastes and substances that may be inherent in the vessel structure

Wastes	Waste-location on the ship
<i>All Metal and metal-bearing wastes</i>	
A1010 Metal wastes and waste consisting of alloys of any of the following:	
Antimony *	alloys with lead in lead-acid storage batteries, solder
Beryllium *	hardening agent in alloys, fuel containers, navigational systems
Cadmium *	bearings
Lead	connectors, couplings, bearings
Mercury	thermometers, bearing pressure sensors
Tellurium *	in alloys
A1020 Waste having as constituents or contaminants, excluding metal waste in massive form, any of the following:	
Antimony; antimony compounds *	fire retardation in plastics, textiles, rubber, etc.
Cadmium; cadmium compounds	batteries, anodes, bolts and nuts
Lead; lead compounds	batteries, paint coatings, cable insulation
A1030 Wastes having as constituents or contaminants any of the following:	
Arsenic; arsenic compound	Paints on the ships' structure
Mercury; mercury compounds	thermometers, light fittings, level switches
A1040 Wastes having as constituents any of the following:	
Hexavalent chromium compounds	paints (lead chromate) on the ships' structure

A1080 Waste zinc residues not included on list B, containing lead and cadmium in concentrations sufficient to exhibit Annex III characteristics	anodes (Cu, Cd, Pb, Zn)
A1160 Waste lead-acid batteries, whole or crushed	batteries: emergency, radio, fire alarm, start up, lifeboats
A1180 ** Waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries included on list A, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or contaminated with Annex I constituents (e.g., cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they possess any of the characteristics contained in Annex III (note the related entry on list B B1110)	level switches, light tubes and fittings (capacitors), electrical cables
<i>A2 Wastes containing principally inorganic constituents, which may contain metals and organic materials</i>	
A2010 Glass waste from cathode-ray tubes and other activated glasses	tv and computer screens
A2050 Waste asbestos (dusts and fibres)	thermal insulation, surfacing material, sound insulation
<i>A3 Wastes containing principally organic constituents, which may contain metals and inorganic materials</i>	
A3020 Waste mineral oils unfit for their originally intended use	hydraulic fluids, oil sump (engine, lub. oil, gear, separator, etc.), oil tank residuals (cargo residues)
A3140 Waste non-halogenated organic solvents but excluding such wastes specified on list B	antifreeze fluids
A3180 Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration level of 50 mg/kg or more	capacitors in light fittings, PCB in oil residuals, gaskets, couplings, wiring (plastics inherent in the ships' structure)
<i>A4 Wastes which may contain either inorganic or organic constituents</i>	
A4030 Wastes from the production, formulation and use of biocides and phytopharmaceuticals, including waste pesticides and herbicides which are off-specification, outdated, or unfit for their originally intended use	paints and rust stabilizers, tin-based anti-fouling coatings on ships' bottoms
A4060 Waste oils/water, hydrocarbons/water mixtures, emulsions	sludge, chemicals in water, tank residuals, bilge water
A4070 Wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish excluding any such waste specified on list B (note the related entry on list B B4010)	paints and coatings on the ships' structure
A4080 Wastes of an explosive nature (but excluding such wastes specified on list B)	compressed gases (acetylene, propane, butane), cargo residues (cargo tanks)
A4130 Waste packages and containers containing Annex I substances in concentrations sufficient to exhibit Annex III hazard characteristics	cargo residues

Footnotes:

* If the component is present it is most likely bound in an alloy or present at a very low concentration

** The ship components are also covered by other List A entries (overlapping)

Table 13 includes wastes and substances that may be on board the vessel when the vessel arrives at the dismantling site as well as an indication as to where on the vessel the wastes and substances may be found.

Table 12 Wastes and substances that may be on board the vessel

Wastes	Product where waste may be found
A1170 Unsorted waste batteries excluding mixtures of only list B batteries. Waste batteries not specified on list B containing Annex I constituents to an extent to render them hazardous.	portable radios, torches
A3140 Waste non-halogenated organic solvents but excluding such wastes specified on list B	solvents and thinners
A3150 Waste halogenated organic solvents	solvents and thinners
A4010 Wastes from the production, preparation and use of pharmaceutical products but excluding such wastes specified on list B	miscellaneous medicines
A4030 Wastes from the production, formulation and use of biocides and phytopharmaceuticals, including waste pesticides and herbicides which are off-specification, outdated, or unfit for their originally intended use	insecticide sprays
A4070 Wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish excluding any such waste specified on list B (note the related entry on list B B4010)	paints and coatings
A4140 Waste consisting of or containing off specification or outdated chemicals corresponding to Annex I categories and exhibiting Annex III hazard characteristics	consumables

Certain waste components that are relevant to ship dismantling are not included in List A in the Basel Convention, but may be covered by other regulations. These waste components are listed in Table 14, together with an indication as to where on the vessel such wastes may be present.

Table 13 Waste components that are relevant to ship dismantling and which are not included in List A in the Basel Convention

Potentially hazardous materials not covered by List A in the Basel Convention:	Ship component
CFC (R12 - dichlorodifluoromethane, or R22 - chlorodifluoromethane)	refrigerants, styrofoam
Halons	fire fighting equipment
Radioactive material	Liquid-level indicators, smoke detectors, emergency signs
Microorganisms/ sediments	ballast water systems (incl tanks)
Fuel oil, diesel oil, gas oil	

Annex 2

Ship Decommissioning Industries S.A.S - 48, rue de la Bienfaisance - 75008 PARIS

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R.C.S PARIS : 485 313 902 00010 - Code APE : 900G

Paris, July 16th, 2006

Secretary of Ministry of Environment

Dr. Pradipto Ghosh

Secretary

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Ref. S/S Norway; ex France to be broken-up at Alang shipbreaking yards

Dear Honourable Sir,

We allow us to write you in the matter of the scrapping of the S/T Norway and the contemplated intention of the new ship owners of taking the ship to Alang shipbreaking yard.

Our technical team has carefully inspected and surveyed the subject vessel in Bremerhaven / Germany before the ship was towed to Malaysia and ultimately to India. Based on the survey report further enquiries were made on the ship documents and on the best process to be set-up for a safe hazardous wastes removal on board of this very particular ship.

The former owners M/S Star Cruises were possibly aware of the fact that a sound and safe de-pollution of the ship would have requested an important budget and that only very well trained and experienced team could properly handle this large quantity of asbestos and this variety of hazardous substances being on board. This assertion is based on the various green recycling projects we have been handling within last years including the Aircraft Carrier Clemenceau project.

The situation of the ship is in deed very worrying in the way that she may contain around 1.200 metric tons asbestos -as per builders estimations- (significant portion of this asbestos being directly friable) and that due to an explosion in the engine room, part of this asbestos has been released in the atmosphere spoiling the air and actively polluting several decks. On the top of that our team could identify the following hazardous substances: Cadmium, Azocolourants, Azodyes, Chromium compounds, Mercury compounds, Polybrominated Diphenyl Ethers (PBDE), Polybrominated Biphenyls (PBBs), Polychlorinated Biphenyls (PCB), Tributyls,

Heavy Metals, Hydraulic and Lubricating oils and various other hazardous substances and materials.

We do not want to interfere at all in your investigations and analyses in this matter. However we feel concerned for two main reasons:

- We know quite precisely what type of hazardous materials and substances are still on board and about the active asbestos pollution. We feel it is our duty to share with you our concerns.
- Nowadays ship scrapping has experienced to be an industry enjoying unfortunately a very bad reputation as no care is really taken of the safe de-pollution of ship to be scrapped. We are convinced that a large pollution may result if the de-pollution is not properly handled jeopardising human life of workers. This would be a disaster for the workers but also for the credibility and image of this industry. As such this would have collateral damages to all companies involved in this industry.

We therefore kindly request you Honourable members of the SCMC to make sure that a real de-pollution scheme shall be set-up including the use of all necessary equipments and technologies by a qualified and experienced team of dedicated workers. We are ready to get to India to testify before your learnt and Honourable committee.

We shall pay a deep attention to this project and of course would use all legal means in India and before the Basel convention and IMO in order to make sure that this project will not damage the reputation and credibility of this industry.

Yours Faithfully,

Ship Decommissioning Industries SAS

Briac BELVERT
Chief Executive Officer