



National
Defence

Défense
nationale



Risks from PCB Amended Paint at DEW Line Sites

Canada 

Purpose of this brochure

This brochure is intended for Northerners who have used or are using wood or any other materials from the DEW Line sites. Between 1950 and the 1970s PCB-containing paints (PCB amended paints) were used at DEW Line sites across Northern Canada to help these structures resist the harsh weather conditions of the North. Some people have salvaged or burned materials from the DEW Line. This brochure is intended to explain the health risks associated with PCB amended paint and answer questions related to the current status of the material coated with these paints present at the DEW Line sites.



What are PCBs ?

PCBs or Polychlorinated biphenyls, are a class of special man-made oils which are used, among other things, in electrical transformers to insulate and transfer heat (preventing fires). PCBs are chemicals in which many hydrogen atoms have been replaced by chlorine atoms. By replacing hydrogen with chlorine, the biphenyls will not degrade or break down (so they don't have to be replaced very often).



Why are PCBs considered a risk to human health ?

PCBs do not break down easily in the environment (they are persistent) and can be harmful to living things. PCBs easily mix in fats and oils, and therefore are stored in the fat and blubber of animals (they bioaccumulate) and are passed on through the food chain from prey to predator (they biomagnify). PCBs are known to cause cancer in animals, and under certain conditions of exposure, may cause cancer in humans.

Why were PCBs added to paints ?

PCBs were commonly added to industrial paints (up to 10% PCBs by weight) from the 1940s through to the mid to late 1970s. PCBs were added directly to the paint mixture to act as a fungicide, to increase durability and flexibility, to improve resistance to fires and to increase moisture resistance. The use of PCBs in new products was banned in Canada and the U.S. in the 1970s. Because of this ban, PCB amended paint is no longer available and it is illegal to manufacture or sell it in North America.

PCB amended paints were used in specialty industrial/institutional applications prior to the 1970s. This includes

but is not limited to government buildings and equipment such as industrial plants, radar sites, ships as well as non-government rail cars, ships, grain bins, automobiles and appliances.

Is it safe to burn materials coated with PCB amended paints ?

PCBs can break down to more harmful substances when burned. These substances include toxic chemicals called dioxins and furans.

Never burn painted wood or any painted materials. Never cook over a painted wood fire or smoke fish or meat using a fire made from painted wood. In addition to PCBs, painted wood may contain lead or other chemicals that may generate a hazardous gas when burned.

If a building burns down and it is known to contain material coated in PCB amended paint, the fire site should not be entered, even once flames have been extinguished. Anything caught in the fire may be contaminated, as could



some of the surrounding area downwind of the fire. It is for this reason that no one should stand downwind of a building or structure on fire. If a fire is detected at a DEW Line site, federal officials should be notified as soon as possible to implement effective testing and where required, cleanup procedures. Government officials will be able to inform you of when you can enter a fire area following a PCB fire.

Why focus on the DEW Line sites ?

PCBs were discovered in paint in building demolition material on the DEW Line sites during the DEW Line decommissioning project in 1996. Since that time, more than 20 sites have been tested for the presence of PCB amended paints. The concentration of PCBs in the paint chips varies from negligible to 7.4%. There are four reasons why the DEW Line site materials are of concern:

- **PCB amended paints are confirmed to have been used on buildings, wood, painted steel, billboards, towers and nearly every structure that was painted on the DEW Line.**

- Many DEW Line sites have been abandoned and the buildings are not being maintained – as a result the paint is flaking off.
- It is believed that some building materials have been used or may be used for firewood.
- Some building materials have been salvaged and taken off-site and are being re-used in the communities or in cabins.

What happens if I touch PCB painted material?

PCBs found in paint are locked in a solid matrix and are not readily available to exposure. Scientific studies show

that touching PCB amended paint does not constitute a level of exposure that would represent a health risk.

How can I tell if there are PCBs in the paint on a building or structure?

The only way to determine if PCB amended paints are present is by laboratory testing of a paint chip. If a building or structure was painted with specialty industrial paint prior to 1975, or if you own a building or materials salvaged from the DEW Line, there is a possibility that PCB amended paints were used. In these instances, you should assume that PCBs are present and take the necessary precautions.

How can I protect myself, my family, friends and animals from exposure?

If PCBs cannot enter your body, then they are not a risk to your health. Protect yourself by making sure that PCBs cannot enter your body. This can be accomplished by avoiding fires using PCB painted wood, minimizing handling of PCB painted materials and avoiding abandoned buildings.

Skin contact with PCB amended paint can be further limited by applying a new layer of paint over PCB painted surfaces. Keep painted surfaces well maintained. Don't let flaking occur. A coat of new paint will help to seal PCB amended paint. If you have handled painted materials, simply wash with soapy water to remove any dust particles.

If you own a structure with large amounts of flaking paint or are renovating a structure that you suspect may have PCB amended paint, contact DND and/or DIAND and your local health officer for advice. Only persons trained in safe cleanup procedures and the use of personal protective equipment should attempt to demolish buildings with PCB amended paint. Do not remove materials from the DEW Line without permission. Do not visit the DEW Line station buildings unless you have permission to do so. If you have salvaged painted materials from the DEW Line assume they contain PCB amended paints.

What should I do if I think I have been exposed?

To avoid exposure to PCB amended paints, take the precautions in this brochure. If you think you have been exposed, visit your local health officer for more information. PCBs are present in the environment at very low concentrations all over the world.



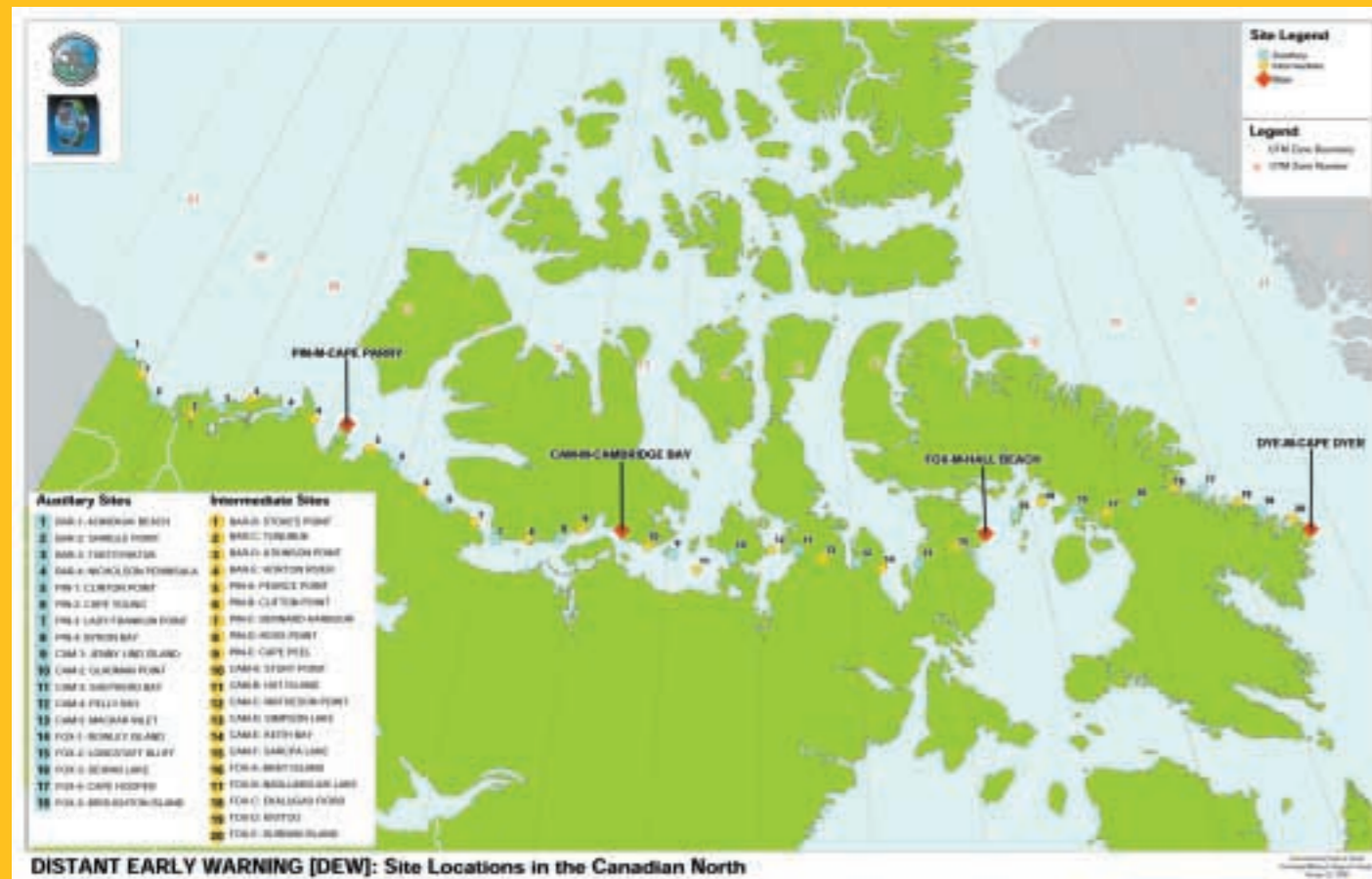
What is the government doing about the issue of PCBs in paints at DEW Line sites?

The Department of National Defence (DND) and the Department of Indian Affairs and Northern Development (DIAND) are committed to disposing of DEW Line site demolition debris coated with PCB amended paints in a manner that is environmentally

sound and socially responsible. DND and DIAND will conduct consultations in every affected community as the DEW Line cleanup program progresses.

Senior Representatives from DND, DIAND, Environment Canada and Health Canada have formed a Steering Committee, called the PCB in Paints Steering Committee. A Working Group has been tasked with examining the various options for disposing of this material including the technical feasibility of safely landfilling materials (demolition debris) covered with PCB amended paints.

To date the Steering Committee and Working Group have held two national workshops, commissioned seven technical studies, reviewed dozens of related papers, examined the response to the issue from the U.S.A., Australia and European countries. The issue has been discussed with the leadership of the Inuvialuit and Nunavut regions. The general consensus of all the “scientific experts” is that landfilling PCB painted materials is a viable option if implemented properly.



Who can I contact with questions?

For more information on PCB painted materials at DEW Line sites, contact National Defence and/or the Department of Indian Affairs and Northern Development.



National Defence

DEW Line Clean Up Project 613-998-9523

Department of Indian Affairs and Northern Development

Regional Offices

Aussi disponible en français et Inuktitut.