BRITISH COLUMBIA

Environmental Appeal Board

Fourth Floor 747 Fort Street
Victoria British Columbia
Telephone: (250) 387-3464
Facsimile: (250) 356-9923

Mailing Address:
PO Box 9425 Stn Prov Govt
Victoria BC V8W 9V1

APPEAL NO. 2002-PES-006(a)

In the matter of an appeal under section 15 of the *Pesticide Control Act*, R.S.B.C. 1996, c. 360.

BETWEEN:	Society Promoting Environmental Conservation	**APPELLANT**
AND:	Deputy Administrator, Pesticide Control Act	**RESPONDENT**
AND:	Canadian National Railway	**THIRD PARTY**

BEFORE: A Panel of the Environmental Appeal Board
Lorraine Shore, Panel Chair
Dr. Robert Cameron, Member
Fred Henton, Member

DATE: March 25 and 26, 2003

PLACE: Vancouver, B.C.

APPEARING:

For the Appellant:	Louise Kenworthy
	Kyla Tienhaara
For the Third Party:	Clifford Proudfoot, Counsel
	Tanya Punjabi, Counsel

APPEAL

This is an appeal brought by the Society Promoting Environmental Conservation ("SPEC") of the July 16, 2002 decision by J.G. Fournier, Deputy Administrator, to issue a Pesticide Use Permit No. 107-123-02/03 (the "Permit") to the Canadian National Railway ("CNR"). The Permit authorizes the application of Krovar I DF (active ingredients bromacil and diuron), Karmex DF (active ingredient diuron), Arsenal (active ingredient imazapyr), Dycleer (active ingredient dicamba), Telar (active ingredient chlorsulfuron) and Roundup (active ingredient glyphosate) along specific portions of CNR's tracks as well as some Burlington Northern tracks. These tracks are located in parts of Surrey, New Westminster, Burnaby, Vancouver, the District of North Vancouver, the City of North Vancouver, Delta and Richmond.

The Environmental Appeal Board has the authority to hear this appeal pursuant to section 11 of the *Environment Management Act* and section 15 of the *Pesticide*

Control Act. The Board's authority under section 15(7) of the *Pesticide Control Act* is as follows:

15 (7) On an appeal, the appeal board may

(a) send the matter back to the person who made the decision being appealed, with directions,

(b) confirm, reverse or vary the decision being appealed, or

(c) make any decision that the person whose decision is appealed could have made, and that the board considers appropriate in the circumstances.

SPEC requested that the Permit be amended to require CNR to adopt an Integrated Pesticide Management Plan, to increase the width of the Pesticide Free Zones in regard to Roundup, to remove the authorization to use Krovar, to impose "No Treatment Zones" in specific sensitive areas, to require CNR to use application technologies to reduce the amount of herbicide entering the environment and to require observers from the Ministry of Water, Land and Air Protection (the "Ministry") to be present during the spraying of herbicides.

By letter dated March 4, 2003, the Deputy Administrator advised that he would not be attending the hearing. He advised that he had provided the Board, the Appellant and the Permit Holder with the technical report that was used to support his decision to issue the permit.

BACKGROUND

CNR has railway tracks that run along the Fraser River in Surrey, New Westminster and Burnaby and cross the river into Richmond. The tracks also extend into Vancouver. Tracks also cross Burrard Inlet and run into both the District and City of North Vancouver. A small section of Burlington Northern track on Tilbury Island in Delta is also to be treated. CNR applied for a pesticide use permit to allow it to use pesticides for total vegetation control on the ballast, within two metres of signal facilities and within rail yards. The permit is also for noxious weed control and selective vegetation control on the right of way to meet Minimum Sightline Requirements for railways as prescribed by Transport Canada.

On July 16, 2002, the Ministry issued the Permit to CNR. The Permit is valid until December 31, 2003, and authorizes the use of the six pesticides subject to various restrictions including the following:

F. Prior to pesticide use, the permittee shall provide pesticide applicators with maps (1:10,000 scale or sufficient detail) that accurately describe the location of water wells, water intakes, creeks and other water bodies or wetland areas that could potentially be impacted by pesticide use. These maps shall accurately show the areas where pesticide use is permitted to occur and shall show the location of all foreseeable pesticide free zones or buffers that may be necessary

to protect pesticide sensitive features. These maps shall be made available on an area-specific basis to the Ministry or other interested parties upon request.

H. Signs advising of the pesticide use shall be posted at all well-defined pedestrian crossings and road crossings that are within 100 metres of areas of use. Signs shall be posted at least 48 hours prior to any local pesticide use within the boundaries of municipalities, First Nations reserves and other settled areas. In other locations, signs may be posted immediately prior to pesticide use. In all locations, signs shall be left in place for a period of at least one week following the use.

...

K. Pesticide use is restricted to areas identified on the attached location maps and as further defined in detailed maps submitted to the Deputy Administrator.

M. A minimum 15-metre pesticide-free zone (measured from the high water mark) shall be maintained around all streams, lakes and wetlands (greater than 25 m^2 in size) when using Arsenal.

N. A minimum 10-metre pesticide-free zone (measured from the high water mark) shall be maintained around all streams, lakes and wetlands (greater than 25 m^2 in size) except when using Roundup in railway ballast and rail yard areas where a minimum 5-metre pesticide-free zone (measured from the high water mark) shall be maintained around all steams, lakes and wetlands (greater than 25 m^2 in size).

O. Pesticides shall not be applied directly to areas of temporary freestanding water (water that do [sic] not drain into streams, lakes or wetlands) or within 2 metres of permanent wet areas that are less than 25 m^2 in size.

P. Pesticides shall not be applied within 30 metres of domestic and agricultural wells and water intakes.

Q. Adequate buffer zones shall be established to protect all pesticide-free zones. The boundaries of pesticide-free zone buffers shall be clearly marked prior to any local pesticide use.

R. Pesticide use shall be in accordance with the respective pesticide product label.

S. Pesticides shall not be applied to any *Rubus. spp.* (raspberries and blackberries) that are greater than 2 metres away from rails or switch stands for the period from opening of flowers until the berries have predominantly dropped from the vines.

T. The use of Dycleer and Roundup shall be restricted to specific areas with emergent or established vegetation. These products shall not be tank-mixed with Karmex DF.

U. Telar shall only be applied in areas where emergent horsetail is the primary target species.

V. Kovar [sic] I DF shall only be applied to areas where target weed species have been documented (to the satisfaction of the Deputy Administrator) to have resistance to pesticides that would otherwise have been used under the permit.

Application equipment shall be restricted to a shrouded rail mounted boom sprayer that controls spray droplet size, to backpack sprayers, hand held guns and wick devices. In all cases, the spray nozzle pressure shall not exceed 275 kPa.

On August 5, 2002, SPEC appealed the issuance of the Permit on the following grounds:

- Some of the herbicides that CNR intends to use may harm the environment or potentially harm human health.
- There is significant public opposition to the use of pesticides in many of the communities where CNR intends to exercise its permit.
- There are methods of controlling vegetation along rail lines that do not necessitate the use of herbicides.
- CNR has not demonstrated that it has explored alternatives to the use of pesticides in controlling vegetation on its rail lines.

The oral hearing was held on March 25 and 26, 2003. After opening statements from both SPEC and CNR, the Panel heard the evidence of two witnesses called by SPEC.

The first, David Polster, was qualified as an expert in plant ecology and alternate methods of vegetation management. Mr. Polster worked for CP Rail from 1988 to 1994. He had been hired to look at better approaches to weed control than herbicides and worked as an environmental supervisor on the Rogers Pass project. Mr. Polster testified that the railway ballast needs to be weed-free and the right-of-way should be nicely vegetated to avoid fires and erosion. He said the problem with using herbicides is that it kills the vegetation on the right-of-way and the first plants to grow back are weeds, thus resulting in more herbicide usage to kill the new weeds.

Mr. Polster said there are various ecological methods that could be employed to break this cycle. One, which he used at CP Rail, was the development of a steam machine to kill the weeds. He said that not only was the principle of using steam ecologically sound, but it would have ultimately saved tens of millions of dollars over a twenty-year period. He said that three versions of the steam machine were built, and that it worked in principle, but not operationally. It would need to be re-tooled in order to function properly. Mr. Polster said that the railway was not prepared to continue with this project because of pressure from the chemical industry. However, he also acknowledged that no railway is using this method of vegetation control.

Mr. Polster said that another complementary ecological method that could be used to reduce the need for herbicides is to replace the bad vegetation with good vegetation. Another procedure would be to create "successional distances" of vegetation between the ballast section and the edge of the right-of-way. Yet another suggestion would be pruning the lower branches of Douglas fir or other tall species so that the canopy is raised and sightlines are good. Mr. Polster said that he used the replacement method in a small rail yard, where he re-vegetated with good vegetation at a considerable cost saving to the company.

Mechanical weeding was also suggested. Mr. Polster states that prison inmates are used to clear the weeds on an Alaskan railway. However, he also stated that the use of inmates was not likely to be acceptable in British Columbia.

SPEC's second witness was Kyla Tienhaara, who has been working as a researcher for SPEC since mid-January. Ms. Tienhaara has a Bachelor of Science degree in Environmental Science from the University of British Columbia and a Masters of Science in Environmental Science and Law from the University of Nottingham, England.

SPEC sought to qualify Ms. Tienhaara as an expert to conduct a review and interpretation of scientific literature. The Panel did not accept Ms. Tienhaara as an expert witness who could express opinions.

Ms. Tienhaara testified as to the research she had done and identified photographs she had taken. She identified some 100 documents that she had located in the following areas:

- Non-chemical vegetation management, specifically on railways
- Fact sheets on the active ingredients of the pesticides named in the Permit, their uses, environmental and ecological effects, human health effects and safety precautions
- The inert substances in the pesticides
- Reports on pesticides which are or will be banned
- Endocrine disruption substances found in pesticides
- Effects of pesticides on wildlife, including endangered species, amphibians, fish and other aquatic life, birds, mammals and non-target plants
- Letters, newspaper articles and position papers expressing public concern about the use of pesticides.

In addition, Ms. Tienhaara introduced photographs showing the CNR tracks in New Westminster running beside the Fraser River, near residential housing and a shopping area, and tracks in Richmond near pathways where people walk their dogs and jog, near where ducks and songbirds live, and near parks.

At the end of SPEC's evidence, the Panel expressed concern as to whether the first step in the test set out in *Canadian Earthcare Society v. British Columbia (Environmental Appeal Board)* (1988), 3 C.E.L.R. (NS) 55 (B.C.C.A.) had been met. The Panel invited the parties to make submissions.

After hearing and considering the submissions, the Panel dismissed the appeal and gave oral reasons for the dismissal. Pursuant to section 6 of the *Environmental Appeal Board Procedure Regulation,* written reasons are to be given for the decision. Accordingly, the Panel's reasons for the decisions are as follows.

RELEVANT LEGISLATION AND CASE LAW

The relevant provisions of the *Pesticide Control Act* are as follows:

Pesticide must be applied in accordance with permit or approved plan

6 (1) Except as provided in the regulations, a person must not apply a pesticide to a body of water or an area of land unless the person

(a) holds a permit or approved pest management plan, and

(b) applies the pesticide in accordance with the terms of the permit or approved pest management plan.

(2) An application for a permit or the approval of a pest management plan must

(a) be made to the administrator,

(b) be in the form required by the administrator,

(c) contain the information prescribed by regulation and any other information required by the administrator, and

(d) be accompanied by the applicable fee established by regulation.

(3) The administrator

(a) may issue a permit or approve a pest management plan if satisfied that

(i) the applicant meets the prescribed requirements, and

(ii) the pesticide application authorized by the permit or plan will not cause an unreasonable adverse effect, and

(b) may include requirements, restrictions and conditions as terms of the permit or pest management plan.

Powers of administrator

12 (1) An administrator may be appointed under the *Public Service Act,* to be responsible to the minister for the administration of this Act and the regulations.

> (2) The administrator has the powers necessary to carry out this Act and the regulations and, without limiting those powers, may do any of the following:
>
> (a) determine in a particular instance what constitutes an unreasonable adverse effect;
>
> (b) suspend, amend, revoke or refuse to grant a licence, permit or certificate;
>
> (b.1) suspend, amend, revoke or refuse to approve a pest management plan;
>
> (c) order a person to repair, clean or decontaminate premises, equipment, a body of water or part of the environment if the repairing, cleaning or decontamination is necessary as a result of that person's contravention of this Act or the regulations;
>
> (d) perform other duties the minister requires.

In addition, section 2(1) of the *Pesticide Control Act Regulation* (the "*Regulation*") states that "no person shall use a pesticide in a manner that would cause an unreasonable adverse effect." Section 1 of the *Pesticide Control Act* defines "adverse effect" as "an effect that results in damage to humans or the environment."

The B.C. Court of Appeal has ruled that the Environmental Appeal Board can consider a registered pesticide to be generally safe when used in accordance with its label (*Canadian Earthcare Society*, supra). However, it is also clear that the fact that a pesticide is federally registered does not mean that it can never cause an unreasonable adverse effect.

The B.C. Court of Appeal in *Canadian Earthcare Society* also agreed with the following lower court decision of Mr. Justice Lander:

> Should the Board find an adverse effect (i.e. some risk) it must weigh that adverse effect against the intended benefit. Only by making a comparison of risk and benefit can the Board determine if the anticipated risk is reasonable or unreasonable. Evidence of silvicultural practices will be relevant to measure the extent of the anticipated benefit. Evidence of alternative methods will also be relevant to the issue of reasonableness. If the same benefit could be achieved by an alternative risk free method then surely the use of the risk method would be considered unreasonable.
>
> The Board erred in holding that the evidence of silvicultural practices and alternative methods was outside its jurisdiction. However, the issue of silvicultural practices and alternative methods would only be relevant to determine the reasonableness of any adverse effect. If the Board found no adverse effect there would be no need for the Board to hear evidence on silvicultural practices and alternative methods.

Justice Legg, in *Islands Protection Society v. BC Environmental Appeal Board* (1988), 3 CELR (NS) 185 (B.C.S.C.), summarized the Courts' approach in the *Canadian Earthcare Society* case. He notes that both levels of Court concluded that the Board is required to engage in a two-stage inquiry to determine whether a pesticide application will cause an unreasonable adverse effect. Justice Legg states that the first stage is to inquire whether there is any adverse effect at all. If not, the Court accepts that that is "the end of the necessary inquiry."

The second stage is that, if the Board decides that an adverse effect exists, the Board must undertake a risk-benefit analysis to ascertain whether that adverse effect is reasonable or unreasonable.

ISSUE

Whether the use of pesticides, as authorized by the Permit, will cause an unreasonable adverse effect on human health or the environment.

DISCUSSION AND ANALYSIS

The Panel asked the parties to address the question of whether SPEC had met the first stage of the test. However, in their submissions the parties did, in fact, address some aspects of the second stage of the test. The Panel has considered all of the parties' arguments.

SPEC argued that in determining whether there was any adverse effect, the Panel should ask if there is some risk. SPEC said there is "some risk," and relied on the uncertainty of scientific evidence. It also relied upon the contents of new federal legislation, the *Pest Control Products Act*, [S.C. 2002, c. 28], which has been passed, but which is not yet in force. This legislation includes the requirement that when evaluating health risks of pesticides and whether those risks are acceptable, special consideration must be given to major identifiable groups such as pregnant women, children and elderly persons. SPEC argues that the Board should no longer accept the assumption that was made in the *Canadian Earthcare Society* case in 1988, that a pesticide is safe if it is federally registered. SPEC further referred to the Ministry's technical report and the documents and the photos submitted by Ms. Tienhaara.

CNR argued that SPEC has demonstrated no adverse effect. It says that Ms. Tienhaara was not qualified as an expert witness and, therefore, the documents she submitted cannot be accepted for the truth of their contents. CNR asked that the appeal be dismissed.

In response, SPEC said that the Panel must decide whether to accept Ms. Tienhaara's evidence. SPEC stated that it has few resources and the Environmental Appeal Board is designed to deal with lay appellants. It submits that the Panel itself should review the articles and make its own decision on the information submitted. Secondly, SPEC submits that the first step of the test is objective. The second step is subjective and has been satisfied by, among other things, photos showing wildlife near the railroad tracks that would be at risk of exposure.

SPEC also pointed to the technical report prepared by Gerry Gleeson, Pesticide Management Officer for the Lower Mainland Region, for consideration by the Deputy Administrator in assessing the permit application. SPEC noted the general comments regarding the toxicity of the pesticides listed in the permit application. However, in dealing with the specifics, Mr. Gleeson wrote:

> **ASSESSMENT OF POTENTIAL FOR ADVERSE IMPACT TO HUMANS OR THE ENVIRONMENT ASSOCIATED WITH THE APPLICATION**
>
> Human Health Effects –
>
> All but one of the requested pesticides have either minimum toxicity to humans or show effects only at high or chronic doses, neither of which is likely in this case. The one exception is 2,4-D. There is some uncertainty as to whether 2,4-D is carcinogenic or not.
>
> Other Non-target Effects –
>
> Any offsite movement or deposit of these products could significantly impact a broad spectrum of non-target vegetation. These products can contaminate water through direct contact or movement in the soil over very short distances. Contamination of water can occur if standard PFZs of wet or dry creeks are not utilized or if pesticide use occurs under conditions where drift will occur.
>
> **Site Specific Impact of Proposed Activity**
>
> Based on the available information, there is every indication that the applicant would use the proposed pesticides in accordance with the pesticide labels or any permit that may be issued. In my assessment of the application, I found no evidence that would indicate that the proposed pesticide use (except 2,4-D), with appropriate conditions, would have the potential for unreasonable adverse effects on the health of humans or the environment.
>
> One possible exception is the use of 2,4-D in areas where groundwater aquifers are close to the surface. It is unclear whether or not 2,4-D is carcinogenic and it has been found in many soil and water samples in North America. Due to the aquifers being close to the surface in parts of the region, the use of this pesticide should only be considered if there are no other alternatives.
>
> Applicant was contacted regarding the use of 2,4-D and asked if it was necessary considering there are other alternatives. Applicant is reluctant to drop 2,4-D even though they acknowledge the fact that it is unlikely they will require its use, considering there are alternative products and historically they have used very little selective, broad leaf weed control pesticide. Applicant does not wish to drop any products they have historically had on their permit.

> Applicant also submitted a reduced area to be treated list. This new submission will be reflected in the recommendations within this report.

Mr. Gleeson then made 10 recommendations to the Deputy Administrator. These included refusing the application of 2,4-D and establishing pesticide free zones of various widths, depending on the particular pesticide to be used. His recommendations, with the exception of the term of the Permit, were adopted by the Deputy Administrator and incorporated into the Permit. In addition, the Deputy Administrator added a further restriction regarding the use of Krovar.

The onus is on SPEC, as the Appellant, on the balance of probabilities, to show that the use of pesticides in accordance with the Permit will cause an adverse effect on the environment or humans. The appeal concerns a specific Permit that authorizes the use of named pesticides in defined locations subject to explicit restrictions.

The difficulty for the Panel is that SPEC has produced virtually no evidence that addresses this specific Permit. Mr. Polster's evidence was based on his experience with the steam train and his views on alternate methods of vegetation control. Through Ms. Tienhaara, SPEC produced a great deal of general information about pesticides, wildlife and related matters. However, this information does not assist the Panel. First, Ms. Tienhaara was not qualified as an expert witness. She could not express an opinion as to whether the information she put forward is reliable and whether it is generally accepted scientific evidence.

Second, the information was general in nature. At its most specific, it included fact sheets on various species of wildlife. Some of these fact sheets identified species that live in British Columbia. Yet the Panel was provided with no information that these species inhabit the areas where pesticides would be used. Similarly, the Board was provided with lists of "red-listed" and "blue-listed" species in the Lower Mainland region, but no information that these endangered or vulnerable species inhabit the areas in question.

Furthermore, the photographs are of little assistance to the Board. The photographs show, among other things, dogs, ducks, songbirds and other unidentified birds near CNR's tracks. Yet no evidence was provided to link the use of pesticides with any risk to those animals. Some photographs, for example, show the Richmond Nature Park with nearby railway tracks. There is no evidence that a track area adjacent to a park would not fall within a pesticide free zone. In addition, a few of the photographs provided were of tracks other than those of CNR.

In effect, SPEC has asked the Panel to deal with the question of pesticide use and its possible adverse effects in a general sense. The Panel, however, does not have jurisdiction to deal with matters in a vacuum. The Panel only has jurisdiction to deal with the use of pesticides as authorized under this Permit.

In regard to this Permit, SPEC has not met the onus of demonstrating that there would be an adverse effect if pesticides were used as authorized by the Permit and in conformance with the *Pesticide Control Act* and the *Regulation*. Therefore, it has not overcome the hurdle of the first stage of this test set out in *Canadian Earthcare*; that is, providing evidence of an adverse effect (some risk) of damage to

humans or the environment. Without an adverse effect, there is no factual basis from which the Panel can proceed to consider "unreasonableness." As stated by Justice Legg in *Islands Protection Society*, if an adverse effect is not established, then "that was the end of the necessary inquiry."

DECISION

In making this decision, the Panel has considered all of the evidence and arguments provided, whether or not they have been specifically reiterated here.

For the reasons provided above, the Panel dismisses the appeal.

Lorraine Shore, Panel Chair
Environmental Appeal Board

June 12, 2003