245-T: the last outpost

by Sue McTagget

New Zealand is the only country in the world which still produces the powerful, and allegedly dangerous, herbicide 245-T. Now pressure is mounting to have it banned here too.

TARANAKI ENVIRONMENTALISTS are a tough breed. They have to be. Any who have been there for any time at all have had to watch the beautiful coastline around New Plymouth systematically ruined into something akin to a bad dream. Once-beautiful beaches now look like junk yards strewn with a selection of some of the ugliest bits that modern industry has ever produced. It is hard to believe that this accumulation is there permanently, that it has not just been thrown down, awaiting transport, to be assembled into something more acceptable, somewhere else.

It is hard to believe that dedicated environmentalists could survive in such a spoiled environment but in some respects they draw energy from it. It is not too surprising that feelings run high there, that in the aftermath of the 21 December fire at Imperial Chemical Industries (ICI) in Auckland, that Ivon Watkins-Dow (IWD) in New Plymouth should collect more flak than ICI. Suddenly there was a focus for pent wrath. Now, they say, with the help of West German scientist Renata Kroesa, they will try to force the closure of IWD's 245-T plant. They have wanted to do this for some time. The ICI fire has fuelled their intent.

Ivon Watkins-Dow is New Zealand's only agricultural chemical manufacturer. It is also the world's only producer of the herbicide 245-T, present in significant quantities in ICI's Caneclean and Canespray — and destroyed in the fire.

The mysterious rashes suffered by some firemen after the fire, and which after six weeks of standard dermatitis treatment had still not healed, have been cause for speculation ever since.

One of the first official reasons given was the soda ash thrown around in great quantities by the firemen. It was suggested that they had brought it upon themselves by getting clothing soaked in this very alkaline compound. But the firemen pointed out that they had not used soda ash at the site until the day after the fire.

"It is more likely," says the Health Department's principal toxicologist Michael Bates now, "that the men were exposed to swimming pool chemicals during the fire. These are very alkaline. But afterwards, because it was assumed by the Fire Department that the chemicals they had been exposed to were acidic, the men were put into alkaline baths. This would explain the rashes."

Firemen will privately admit that there were a lot of things done wrong at the fire. But the soda ash story, too quickly circulated, that and the 10 tonnes of waste that poured into the Tamaki Estuary seemingly in the face of disinterested authorities, angered many. There seemed to be no concern for either firemen or fish. Enter Greenpeace. Renata Kroesa was in Auckland at the time of the fire, visiting New Zealand because of her concern about the continued manufacture of 245-T here, and concerned specifically about the 245-T contaminant, dioxin.

It was she who contacted the Northern Fire Brigade Union to suggest that the rashes may have been caused by dioxin-poisoning, that the men may well have been exposed to *the* most toxic substance ever synthesised.

Whether or not the firemen are suffering dioxin-poisoning has yet to be established. Not satisfied with Health Department tests taken three weeks after the fire, the Union, with the help of Dr Tord Kjellstrom of the New Zealand Engineering Health and Safety Department, arranged for fat and blood samples from three affected firemen to be sent to Sweden for independent analysis.

Says Kjellstrom: "This kind of chemical does not break down in the body. It is absorbed into the fat tissue to stay there for almost ever." Much work on it has been done in Sweden, where there is a total ban on the use of 245-T, but it is an extremely expensive analysis. "One analysis costs in the order of $2000 but Christopher Rappe at the University of Umea says he will do it for free as part of his research."

The results are awaited with interest. Dioxin, it is claimed, causes a host of illnesses, from cancer to congenital birth defects. It was the substance behind the biggest payout in legal history, the $US180 million paid by American chemical companies, including Dow Chemicals who own 51 per cent of IWD; the out-of-court settlement to the victims of Agent Orange sprayed in South Vietnam during the Operation Ranch Hand defoliation programme. When Renata Kroesa suggested the firemen had been contaminated newspaper-headline type shot up a couple of sizes and neither she nor Ivon Watkins-Dow have spent much time out of the papers since.

NZ Herald

A fireman shovels soda ash into a drum for disposal after it has been used for neutralising chemicals.

ONLY SOUTH VIETNAM has been doused with more 245-T than is sprayed around New Zealand each year. Its use is now banned or restricted in many countries, and its manufacture has ceased in all, except New Zealand. Why? The short answer is gorse. As far as the average farmer is concerned there is no real alternative to 245-T, in terms of cost efficiency, for the eradication of gorse. There are alternatives, like Tordon, which is also manufactured by IWD and is, in some areas, more efficient than 245-T. But to look at Tordon is to look at paying more than twice as much for a very expensive compound. In fact there is a little Tordon added now to 245-T. Bob Moffat, research manager at IWD says: "These days there is more gorse sprayed with the mixture than by 245-T alone, but the workhorse is still essentially 245-T." Gorse in some areas of the country grows very woody and tough. Only 245-T will penetrate it effectively.

"And 245-T," says Moffat, "is simple and inexpensive, and safe to make." IWD, he adds, have also lowered the dioxin level in the finished product to such a level that there is no more than a *teaspoon* full in the 700 tonnes or so sprayed over 70,000 hectares in New Zealand each year. One teaspoon full? Renata Kroesa is spending her own money, with Greenpeace having to hold little fund-raising gatherings to help her out — for a teaspoon of something? She is.

Her main preoccupation is with what happens to excess dioxin removed at the

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New Plymouth plant. The last remaining 245-T producers overseas, in Austria and Germany, were forced to close because they could not solve the problem of the disposal of waste dioxin at their plants. And she remains singularly unimpressed by the fact that IWD in New Plymouth have spent about $10 million over the past four years purely on the development of safe waste treatment.

"I definitely do not understand what they mean when they say they are recycling the dioxin, because of the equilibirum reaction. I have been a chemist for eight years and I know that in the equilibrium reaction dioxin does not convert back to tri-chlorophenol. Dioxin is the stable compound so you will always have a drive back toward the dioxin. And I think that's why IWD are refusing to see me. They feel threatened. They know I'm a chemist and they know I've worked on synthesis. And if they really do have this new revolutionary process then why the hell is Dow Chemical not producing all over the world? It doesn't make sense."

Little of it makes any sense to anyone without a degree in chemistry. But the IWD waste-disposal unit has been approved by the Health Department and the company refuses to meet Renata Kroesa — who made a tactical error when she arrived in the country last year and told reporters she intended to shut the 245-T plant down.

"The basic chemistry, yes," says IWD's public relations manager Tony Jacques, "is very simple. It's the technology, the technology that *controls* the reactions that is important. And we have developed it. It is IWD technology and for obvious, commercial reasons we do not intend to share it, with anyone, let alone some unofficial outsider."

There is a sign of siege mentality within the IWD complex wherein large transfers on the ducting remind those who get to enter: "Life Is Fragile. Handle It with Care." Security is tight and visitors are required to don an array of safety gear before venturing near any of the plants. Safety showers, never further than a few paces away, remind also that the people who work here are dealing with very dangerous substances. But dioxin is a side issue for IWD management now.

It is the ICI fire that leaves them feeling most sensitive and they are most anxious that visitors fully understand, and appreciate the fire protection system, the deluge system, installed throughout the complex. Supervising manager of the plants, Alastair Taylor, is emphatic that a fire like that at ICI could not possibly happen at IWD.

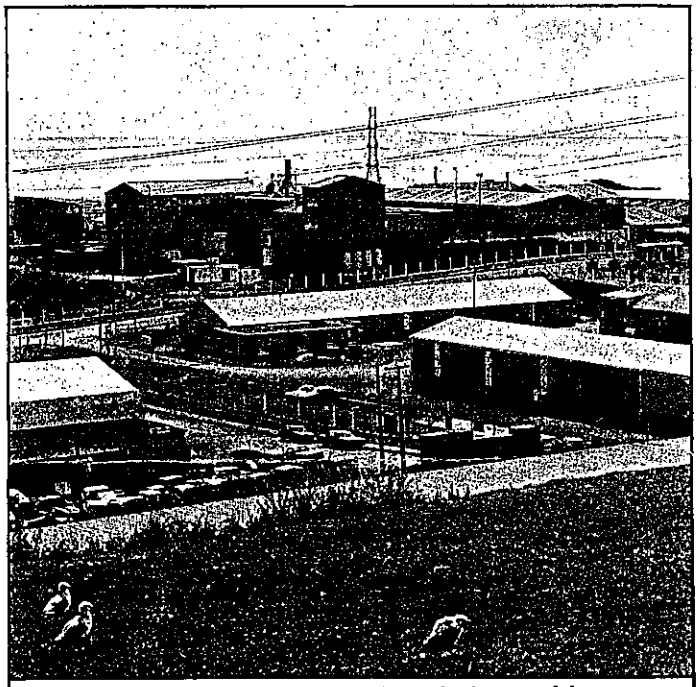
The local fire service, it is emphasised, would play only a secondary, back-up role, should there be a fire here. "There has been only one accident, an explosion here, back in 1972," says Bob Moffat. "And in the quarter of an hour it took me to get back from across town it had been dealt with."

But the possibility of fire worries Kroesa. She is also quite certain that the health of people in New Plymouth has suffered, if not now then in the past, when IWD, by their own admission, incinerated their excess dioxin. But Health Department statistics, such as they are, reveal nothing of interest at all.

Photographer: Jane Ussher

Renata Kroesa: unimpressed with the plant's safe waste treatment.

Bob Moffat (left) and Alastair Taylor: "245-T is . . . safe to make", says Moffat.



Ivon Watkins-Dow 245-T plant in New Plymouth: the powerful fumes are harmless, claim the Health Department.

Lymphosarcoma, a cancer which could be related to dioxin-poisoning, is three times the national average in urban New Plymouth according to the 1982 Cancer Mortality Atlas but Michael Bates points out that these variations can be found throughout the atlas, involving every type of cancer. "Cancers go up and down all over the place and that doesn't make it very easy to pick up causes. But anything statistically significant would be picked up by the local medical officer of health and if there was a reason to believe that chemicals had caused something we would be called in. But we have never been involved in the area of cancers."

Some of the workers in the plant across the road from IWD have in the past few weeks been complaining of headaches, burning stomachs and even ulcerated mouths. Some have had to take sick leave and they believe they are suffering from the powerful fumes blowing across from the 245-T plant. They feel they have had a fair deal, if no satisfactory action yet, from the medical officer in New Plymouth though. And Renata Kroesa says she got a fair hearing and helpful assistance when she visited Wellington Health Department officials.

But it was the Health Department that approved the burying of IWD waste close to an eroding cliff back in the 70s. It is now agreed that the dump must be moved, but since environmentalists had to fight very hard to get that move the Health Department has a credibility problem when it comes to the safety of 245-T.

Michael Bates does not look as if he is in the pay of multi-nationals though. In fact he spends a long time and takes great pains to reassure. On the smells, for instance. They made *Listener* visitors to the plant feel pretty awful too. "You smell something nauseous, you feel ill. Right? Certain smells can actually make you vomit. Right?" (Visions of ill-trained fathers collapsing over a dirty napkin.) "But that doesn't mean that the smell is actually causing you physiological damage. It's a combination of the smell and worry that can produce very real but psychosomatic symptoms." And the human nose, he adds, is actually more sensitive to the phenol, the main offender from IWD, than some of the most sensitive monitoring equipment. "It can pick it up at the lowest levels. But it is harmless."

Finally, on the safety of 245-T and its accompanying dioxin, one has to accept Bates's word. In the past nine years he has studied many many research papers — the results of some of the 40,000 trials done on the effects of dioxin in different parts of the world. So far the dreaded chemical has not been found guilty beyond doubt of harming a single human being.

"But ask 100 people about 245-T and 90 per cent of them will tell you it's a bad thing and that the New Zealand government is covering up. But I have read hundreds of papers and I have not found anything — that was not written by a politician or an environmental activist — that supports their view."

Then Bates reads from the judges' decision regarding the Agent Orange settlement: "There are many considerations that make settlement desirable from the plaintiffs' viewpoint. First, the scientific data available make it highly unlikely that except, perhaps, for those who have or have had chloracne [a pustular rash caused only by dioxin] that the plaintiff could legally prove any cause or relationship between Agent Orange and any other injury, including birth defect." The vets wanted six billion dollars. They settled for the $180 million.

"So the environmentalists say," sighs Bates, "then prove that dioxin *doesn't* cause birth defects. But you cannot prove that anything doesn't do something. It should also be emphasised that New Zealand is not out on a limb allowing the continued production of 245-T. The UK Advisory Committee on Pesticides, the Canadians, the Australians, they take the same view as us. But decisions get made by politicians, because accidents like Seveso [where an explosion in 1976 released a pound of dioxin into the air, causing authorities to evacuate the town] make them nervous. And they make the chemical companies nervous too because it doesn't bring them into good repute. So decisions are made to close plants, for political and commercial reasons."

Authorities have yet to find any evidence that the health of the people of Seveso has been affected in any way by that exposure to dioxin. Meanwhile Bob Moffat asks: "Didn't 30 people drown in water this summer?" And Michael Bates says that the boiled rhubarb-leaf solution used to keep the white butterflies off the cabbages in the home patch is definitely known to be deadlier to human health than a drop of dioxin!

Still Renata Kroesa is determined. "I have started this campaign and I really want to see an end to it. I look at the water pollution in Europe, at the trees dying. And so I'm definitely working here. My visa says '*business*'." But her success will depend on the support she can muster and it is impossible to gauge whether she is misguided, or not. But it is not difficult to see how she rallies environmentalists in New Plymouth. One of the last beautiful things left around the city coastline is gorse-covered Paritutu. ■