



Cranbourne sparks landfill stink

By Richard Collins

WHEN was the last time landfill gas made the mainstream media? Not just an annoying odour beat-up in the tabloids, mind you, but the national broadsheets, ABC Radio National and even the business press? The evacuation of residents from around Melbourne's former Stevensons Rd landfill over "explosion fears" from leaking methane has sparked plans for a legal class action, plunging house prices, a fury of finger pointing and calls for a national review.

"A national inquiry is needed to prevent a repeat of the Cranbourne landfill planning debacle," said the federal Opposition's environment spokesman, Greg Hunt, calling for a safety review of all landfills and development of national guidelines on future development near landfill.

Queensland and South Australia stipulate a 500m buffer for homes and other sensitive uses, while NSW permits building within 250m of a landfill or areas "having potential to have methane concentrations of greater than 1.25% in the subsurface".

The detection of methane at concentrations of 50% in houses just 200m from the former putrescible tip in Victoria has been a public relations disaster for the landfill sector. Beyond the immediate incident, the fallout is likely to include a regulatory crackdown and further fuel for landfill critics to reignite their causes.

In Port Lincoln, SA, Betty Burner and Lenny Haynes made the local *Times* over concerns "they face the same risk [as Cranbourne residents] of explosion from methane" escaping from the neighbouring Port Lincoln Resource Recovery Centre, despite the council adding a flare last year.

In WA, Fremantle's residents have called for more studies before redeveloping the South Fremantle tip.

Melbourne's leading environmental law practices have been fielding a spate of calls from landfill operators concerned about the implications of Stevensons Rd. None would talk on the record as many are directly engaged in the matter, but several reported the worried inquiries.

Hyder Consulting's Joe Pickin also expects the incident to be a "shot in the arm for alternative waste technologies" (AWT). The government in August flagged it wanted two AWT facilities in Melbourne by 2010 (and has earmarked \$10 million to start the process), but Pickin believes the spike in community concern could provide the political cover to ramp that up.

"I bet anything that the next time a new direction is announced on waste management, Cranbourne will be mentioned by the government," he said.

It could even prompt government officials to dust off other regulatory ideas, he added, such as a levy on putrescible waste to landfill or even an outright ban on organics.

That's down the track though; there are more immediate concerns for landfill operators. More than a few will be nervous about the audit of all closed landfill sites by the EPA, though the 18-day timeline is pretty tight for

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– Greg Hunt, environment spokesman, federal Opposition

a state-wide study.

All will be waiting for the inevitable regulatory tightening, with Pickin not alone in noting the possibility of a flurry of Pollution Abatement Notices (PAN) from the EPA, which could spark some expensive clean up efforts. None will be more concerned than the 36 landfills with existing PANs.

If anything, the implications for buffer zones and post-closure planning could be more worrisome. One lawyer told *Inside Waste* that Acting Premier Rob Hulls will likely broaden the Ombudsman's inquiry he set up into Cranbourne to include the entire sector. Public pressure will demand it, goes the reasoning, as "the difference between [a buffer of] 200m and 500m is largely artificial". SITA's approval for a waste treatment plant at the nearby Hallam Rd landfill, which will be about 350m from a retirement village, has

already felt the warm touch of the media spotlight.

Then there's the live issue of post-closure liability.

"Operators may have a rehabilitation plan and have funded it, but they will now be asking if they have got that fully covered," said another lawyer, pointing to damages that now could include impacts on local real estate.

Some 1.1 million tonnes of waste was disposed of at the Cranbourne landfill up to its closure in 2005. It is generating about 1,300m³ of methane an hour, of which council environmental team leader Michael Jansen said "probably about a couple of hundred cubic metres an hour" was not being captured. Remediation won't be fast.

Extensive gas works

On September 10, the Country Fire Authority urged residents from some 400 households in Brookland Greens Estate to leave their homes.

the landfill to minimise gas passage.

"Council has spent more than \$4 million on the restoration efforts and will continue to invest time and resources in working with the EPA to manage the situation," said Casey Mayor Cr Janet Halsall.

None of it has solved the basic problem, however, with groundwater ingress ramping up gas production and flooding the gas extraction system, reducing its effectiveness.

In July, the EPA shifted its general position on methane, reducing the acceptable concentration in residential areas from 2.5% to 1%. This saw a false alarm at Brookland Greens in mid-July, when one home showed an initial reading of 2.4% but no traces of gas on further assessment. However, when in September a 60% reading was recorded in the wall cavity of a home and 20% in pockets under the house, the EPA alerted the fire service and the rest is history.

Lines of legal inquiry

More than 30 families evacuated their homes at the outset, some taking advantage of the government's offer of \$1,000 (now up to \$8,500) towards the cost of relocation.

Class action specialist Slater & Gordon is now investigating a lawsuit on behalf of more than 280 residents. Lawyer Ben Hardwick has been busily pointing the finger at just about anyone with any involvement, including the council, the EPA and the Victorian Civil and Administrative Tribunal (VCAT).

Inside Waste has learned there are three possible causes of action: nuisance, which refers to interference with a person's enjoyment of their land; breach of a statutory duty of care; and negligence, which would require showing there is a statutory duty and that the gas impacts were foreseeable.

"Look, there's been a lot of buck passing in this scenario," Hardwick told ABC Stateline.

"The primary party that we're investigating in terms of liability is the local council. It's the owner of the land and the operator of the tip and it has an obligation to its neighbours, in the same way that you and I do.

We have obligations not to pollute our neighbour's properties and that's the basis of the action that we'll be investigating against the council."

He aims to show best practice technology was not used in the construction and that it should have been designed in a safer way. The difficulty will be that despite a widespread trend in the mid-1990s towards lining landfills, it was not compulsory until 2004. Secondly, VCAT's 2004 decision to allow development within 200m of the landfill was allowable because the EPA guideline was for a 500m buffer but the policy as written stipulated only a minimum of 200m.

In truth, none of the parties come up smelling of roses. The council has failed to get on top of the operating issues. The EPA has been slow to bring its policies into line with its rhetoric, typically talking a tougher line than it could defend. And VCAT chose to reject the EPA and council recommendations in its buffer decision, ignoring even the advice of the developer's expert witness to wait for a full cycle of seasons post-closure to assess gas and odour impacts before allowing building to start.

Is the risk real?

Landfill gas has not been blamed for any major explosions in Australia, although a series of international incidents has shown the very real potential risk. UK firm Enviros Consulting has chronicled several reported incidents on its website (<http://tinyurl.com/3e84o4>).

Loscoe Explosion, Derbyshire: An explosion destroyed a home adjacent to a landfill in March 1986 (see image). From 1977 some 50t/day of untreated MSW was put into the old brickworks site, with the first signs of gas generation in 1984. After the explosion, attempts were made to draw the remaining gas out of the tip, with gas flow rates of 150-200m³/hr at 30-35% methane content recorded.

North Yorkshire: A house 50m from a waste-filled quarry was seriously damaged by an explosion after gas, generated from domestic and commercial waste dumped over a three-year period, migrated along natural fissures in the limestone underneath the house. There was no prior warning of the problem.

Atlanta, Georgia, US: In December 1967 a single storey building was destroyed, two people killed and two injured by a methane explosion. The building had a bricked-up basement which apparently filled with gas and was ignited, possibly by a cigarette.

Winston-Salem, North Carolina, US: In 1969 an explosion in an armory built close to a landfill site killed three people and injured 25. It was caused by blockages to the pathways for gas migration after the closure of the landfill, with the gas accumulating to an explosive limit.

The Ombudsman's inquiry is not likely to be flattering.

In the trenches

The EPA has called in a raft of international figures to crawl over the Cranbourne landfill amid claims residents could be unable to return to their homes for a year.

The council says there is no easy fix and is talking seven figure sums to

resolve the issue permanently.

Others downplay the difficulty of the problem. Sam Bateman of Hanson Landfill Services says he faced similar circumstances in Hong Kong 10 years ago when a housing project was approved on the boundary of the landfill.

"We dug a trench down to the groundwater and put gravel on the inside then a plastic sheet to prevent

the gas migrating," he said. "It worked a treat."

The EPA has ordered the council to dig a cut-off trench dug along the western and northern landfill boundary, install horizontal wells or closely spaced vertical wells along those boundaries to intercept landfill gas migration at depth, and passively vent any landfill gas hotspots and potential migration pathways. **IW**



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