Waste Management

Landfill Operation & Maintenance

Jane Van Hool:
Judkins is a land fill site near Nuneaton. Originally a quarry, it now takes mainly household industrial and commercial waste. The site is within thirty metres of residential housing, which means special care has to be taken, when tipping the waste.

Ken Rowe, Unit Manager, Judkins, Hanson Waste Management
We're on the operational land fill, this is where wastes are received, compacted buried and covered. You can see this going on here. There's sufficient cover materials here to cover those wastes. Initially the wastes are compacted with the compactor that you can see operating ahead.

Jane Van Hool:
With a land fill site this close to where people are living, all operating procedures are closely monitored.

Lesley Heasman
Once a land fill site is operating, there are a huge number of checks that go on on a daily basis. They're usually detailed in the site licence, so there are detailed conditions that you've got to comply with. The sorts of checks would be, from the waste coming in the gate, you've got to check that the paperwork actually records properly the waste that is in the vehicle. You've got to record where that is being deposited.

Jane Van Hool:
The monitoring is carried out as on all land fill sites, not only by the owners, but independently by the environment agency. Strict monitoring for the migration of leachates is essential. Leachates that accumulate above the liner at the base of the land fill, can be pumped out, and taken away by tanker for treatment in a sewage disposal works. For any surface water, contaminated by small concentrations of leachate, they've developed an alternative treatment.

Ken Rowe
We're at the reed bed development, which are basically two large beds, planted with a reed called fragmietease ostralis. What we basically do here, is bring up contaminated water, and a more dilute type of leachates, feed them into these beds here. The reeds basically draw off the ammonia element of that leachate and contaminated water, down to a suitable level, where we can discharge that then to a local water course, which is the Coventry canal, under current discharge consent. and this is it, the final discharge point of our treated effluent done via the reed beds. This is routinely checked by our own environmental department, and randomly checked by the environment agency for compliance with our current discharge concern.

Jane Van Hool:
The other undesirable by product, is land fill gas. Composed of methane and carbon dioxide, it not only has an unpleasant smell, it's also a powerful greenhouse gas. Methane is sixty five times more potent a greenhouse gas, than an equal mass of carbon dioxide. But as a combustible gas, methane can also be put to good use.

Ken Rowe
Land fill gas is constantly being produced from the degradation of wastes in the active land fill. This we can tap into by using vertical pipes, we draw off this gas, and we bring it into this

power generation compound. What we do here then, is compress it, filter it, de-water it, and we run the gas into two gas reciprocating engines. These are currently producing 1.9 megawatts of power, of which we're selling back to the grid under the non-fossil fuel obligations, charges three and four. One point nine megawatts is sufficient to provide power, to just under two thousand residential homes.

Jane Van Hool:
The EU directive will require a substantial reduction in the amount of biodegradable waste going to land fill. This should also reduce the amount of land fill gas produced, as the waste decomposes.