SAFETY ALERT – GEOMEMBRANE WELDING

Recently there have been two reportable incidents of flare-ups during geomembrane welding on existing landfill sites in Victoria.

An investigation regarding both fire and explosion risks associated with combustion of landfill gas (LFG) during geomembrane welding operations is currently underway.

LFG which is a natural byproduct of the decomposition of organic material in landfills is comprised of roughly 50 percent methane (the primary component of natural gas).

Pockets of methane can accumulate under the new liner and these can combust when exposed to an ignition source such as a hot wedge.

Flare-ups and/or explosions can occur depending on the methane:air ratio. The flare-up and/or explosions can be near or remote from the point of ignition by the hot welder.

Hot work during geomembrane liner installation (e.g. extrusion and wedge welding) is deemed safe on new landfill sites and in areas away from active cells where landfill gas is not present.

Safety incident during welding of geomembrane liners on active landfills due to methane gas accumulation under deployed liner have also been reported overseas.

Methane monitors and gas detectors should be employed before considering welding liners on or near an adjacent active cell.

Elevated levels of methane have been recorded at ground height directly above the adjacent cell or within confined areas.

To reduce **fire** and **explosion risks** during geomembrane welding it is necessary to carry out proper gas monitoring and hazards analysis.

This **safety alert** is a short guidance that highlights an incident or unsafe practice to the industry.