

INCIDENT TYPE:

MERCURY SPILLAGE AT WATER TREATMENT WORKS

During recent refurbishment work at a water treatment works, as part of the managed programme, there was a mercury spillage in the vicinity of the works inlet.

This situation arose as a flow meter previously unbolted from its working position and placed on adjacent waste ground was being physically moved by two contractor's operatives from this temporary position to a skip for final disposal off-site.

As part of the disposal operation the instrument was lifted over a newly installed handrail, the unit was tilted and mercury, contained in a cylinder suspended by wire within the instrument, spilled out.

The operatives involved had been advised, as part of the site induction, of the site spillage response procedure and immediately reported the incident.

At that time it was unknown whether any of the spill had reached the water inlet bell mouth but the works was shut down within thirty minutes of the incident as a precaution. Any spillage would have been contained as the clarifier has a residence time of sixty minutes.

Samples were taken as a precautionary measure in the bell mouth, clarifier, inlet channel and the filter channel with one sample recording a level of 0.48 micrograms/litre, the potable water consent figure being 1.0 micrograms/litre.

Irrespective of the sample reading being below the permitted level the system was flushed and cleaned and further sampling carried out with a reading of 0.03 micrograms/litre recorded.

The spillage had been contained within the treatment process and all traces of mercury were cleaned up by a specialist contractor, with all contaminated water and the mercury containing part of the original flow meter removed from site and disposed in accordance with environmental legislation requirements

Investigation into the incident identified that Operations Personnel had advised the contractor that the instrument might contain mercury. The contractor's personnel had checked the flow meter but since the mercury containing cylinder was within another cylinder within the body of the instrument it was not immediately obvious and was overlooked.

The contractor had a method statement in place for the removal and setting aside of the flow meter but not for the subsequent disposal arrangements as it was seen as being simply scrap material.

There was no record of the presence of mercury or other hazardous substance in the Pre-tender Health and Safety Plan. Hence the Construction Phase Health and Safety Plan developed by the contractor from this plan took no cognisance of this risk.

On a positive note, investigation concluded that the emergency arrangements put in place had been effectively communicated to the workforce and prompt action prevented the possibility of any residual mercury spillage passing through the works into the drinking water.

As with all such events there are lessons that can be learned and the following recommendations are made:

- ❑ Designers should ensure that risks from instrumentation likely to contain mercury or other hazardous substance is clearly included in Initial Health and Safety Plan
- ❑ All traces of mercury or other hazardous substances should be removed immediately when old instrumentation is decommissioned
- ❑ No assumptions should be made that mercury or other hazardous materials have been removed from instrumentation, which is still on site.