Dangerous occurrence - gas safety and decontamination units

ALU has been informed about an incident involving a licensed contractor where a number of operatives appeared to have suffered carbon monoxide poisoning whilst using a decontamination unit (DCU). The investigation has revealed a number of deficiencies with regard to both the design and maintenance of DCUs with LPG open flue boilers and LPG generators. The investigation continues and enquiries are being made of manufacturer and supplier. HSE will use appropriate channels to produce the relevant product safety warnings across all sectors when investigations have been concluded.

In the meantime, ALU is urging all users of DCUs to review their units and the way they are maintained.

Particular attention should be paid to the following issues, which should form part of planned maintenance regimes and daily DCU checks:

1. Seal integrity
   The boiler compartment **must** be gas tight; it is of vital importance that there is a good seal between compartment and DCU. Given the risk associated with poor seal integrity, users of DCU are strongly advised to install carbon monoxide alarms in the clean end of units fitted with open flue boilers.
2. Ventilation of boiler compartments
   BS5440 and BS5482 require open flued appliances to have adequate ventilation **at high and low levels**. The amount of ventilation required will be stipulated by the heater manufacturer.
3. Flue length
   BS5440 requires that the vertical flue length will be a minimum of 600mm, of which 250mm is outside.

The investigation raised a number of other design issues, not immediately related to the carbon monoxide incident. These should also be addressed in a review of DCU stock and maintenance / inspection regimes:

1. The gas bottle store should be provided with low level ventilation and must be sealed from sources of ignition. Any hosing must be dated and replaced every 5 years.
2. Where an LPG powered generator is used, this should be provided with suitable venting to remove products of combustion. The removal of the compartment door itself is not a suitable means of ventilation.
3. Boiler compartments should also have gas dispersion holes in the bottom of the boiler cabinet, in order to prevent dangerous build up of LPG in the event of leaks. This must communicate to outside air. Appliance isolation taps should be available within the cabinet.
4. An annual gas safety check, is the minimum requirement for mobile vehicles with gas burning appliances and it is recommended that six-monthly checks are preferable. Any examination and testing work must be carried out by an engineer with the relevant and valid LPG qualifications.