

## Public Service Excellence

### IRISH PRISON SERVICE

# A breath of fresh air

The recent introduction by the Irish Prison Service of a new high-tech breathing hood for fire-fighting has had a profound effect on both safety and costs

**A** NEW LIGHTWEIGHT hood, developed jointly for the Irish and UK prison services, halves the time it takes prison officers to tackle potentially life-threatening cell fires – and could eventually become standard issue in jails around the world.

But to describe this revolutionary piece of equipment merely as a fire-proof hood doesn't really do justice to the ground-breaking technology it embodies – which is already being looked at by the mining and aviation industries, amongst others.

Yes, the hood is a fireproof membrane. But it's also a self-contained, sealed unit which recycles a limited amount of air, using the chemical compound  $KO_2$  (potassium superoxide) to scrub it clean of carbon-dioxide and make it reusable – in this case for a maximum

**The new Cell Snatch Rescue hood being used by the prison service**

of 15 minutes.

"The hood goes over your head, and every time you exhale you inflate a bag – called a third lung – at the back, which washes out the carbon-dioxide and injects chemical oxygen," explains Mark McGoldrick, fire safety officer with the Irish Prison Service.

"Previously, we used a small bottle of oxygen, similar to what's used by the fire brigade or by scuba divers, carried on a heavy waistcoat. The new system is lighter, allows better vision, is less complicated and less expensive to maintain.

"More importantly, when it comes to

saving lives, it's also considerably faster to use in an emergency situation where speed is of the essence. On average, we have the time for donning and checking the hood and getting into the cell down to 90 seconds."

Irish jails face about 15 fires a year, some accidental, others deliberate. In every case, saving lives is paramount, whether it's an inmate or a prison officer. In such a life-or-death context, the new hood – called CSRE or Cell Snatch Rescue Equipment, as against the old system, which was called SDBA or Short Duration Breathing Apparatus – will be invaluable.



**Mark McGoldrick, fire safety officer with the Irish Prison Service**

"We share expertise regularly with the UK prison service, and we both used the old SDBA system, so we were both well aware of its problems," says McGoldrick. "That's why we decided to put the new escape hood out to tender jointly." The tender was won by a company named Semco and development work began in 2007. A year later, the new hood won CE consumer safety certification, and from spring of this year, it's been in use in Irish prisons.

While you might expect the new high-tech option to be more expensive than its predecessor, the CSRE hood is, in fact, considerably cheaper, costing just €680 each as against €1,500 each for the old SDBA systems, a saving of more than 50 per cent. Thereafter, there is an overall annual saving of 66 per cent – with the bill for staff training, for instance, reduced by €250,000, and maintenance costs reduced by €90,000 or 90 per cent.

"More important than the money is the safety and the peace of mind of the wearer," says McGoldrick. "And because we were able to stipulate the design, a whole lot of smart safety elements have been built in.

"A microchip in the hood senses when it's removed from its packaging, and activates it automatically. Once it's on, two LEDs on the nose piece give a five-second beep to show it's working. Ten minutes later, there's an intermittent beep to alert the wearer that there are five minutes of use left. And five minutes later, there's a continuous beep – indicating that the wearer must get out of harm's way.

"It's important to remember that fires in prisons are different," concludes McGoldrick. "They're rarely straightforward in terms of how or why they've happened. You've got to think outside the box. And this new hood helps give us what could be a life-saving edge."