

Time up

The clock is ticking but many end users are struggling to call time on HCFCs

With just 20 months to go before the use of virgin HCFCs for maintenance and servicing of refrigeration and air conditioning equipment becomes illegal EU-wide, there are still huge numbers of systems to be replaced or converted to run on proven direct replacement refrigerants.

This should not be the case and is extremely disappointing, particularly given the efforts the HVACR industry has made to inform end users of refrigeration and air conditioning equipment of the facts surrounding HCFC phase-out.

While many proactive contractors have been communicating this message to end users, feedback that IDS is receiving indicates some resistance, coupled with a lack of understanding of the implications of doing nothing. Now the biggest single hurdle to compliance is the reduced timescale.

The average contractor in the UK looks after at least 250 HCFC systems. Contractors with whom IDS works closely say they have been converting or replacing just two systems per month on average for the past 18 months, despite the message that industry has been taking to end users. On this basis less than 20 per cent of their portfolio of equipment will be converted by the end of 2008. Even if this figure was to double during 2009 it would still leave more than 150 systems, or more than half, dependent on the availability of reclaimed HCFCs – a very high-risk strategy.

A common misconception is that end users can simply switch to recycled product. Reclaimed HCFCs will have a part to play, but while it will still be legal to use/recycled R22 to top up existing systems post-2009, industry figures show that the historic product return rate for reclaim is only sufficient to fulfil a very small percentage of the anticipated demand.

A critical factor with recycled product is the importance of using reclaimed product reprocessed to the ASHRAE international specification. In simple terms, if moisture, oil and acid are not removed completely during reclamation, a less pure product results. This has an adverse effect on plant performance and efficiency,

potentially increasing both energy costs and risk of equipment failure.

On a positive note, there are a good many well-informed end users who are well advanced with planned phase-out programmes.

Many contractors who work with IDS report that responsible end users are adopting a three-pronged approach.

- Equipment replacement, primarily of older and less efficient equipment;
- Conversion of R22 and other HCFC applications using direct replacement refrigerants;
- Plans in place to use recycled HCFCs on a limited basis to buy more time for conversion or replacement programmes post-2009.

This would seem to be a sound way forward. However, for those who do not have a replacement or conversion plan in place, now is the time to take action. The timescale is very tight, but not yet impossible to meet.

Replacement of existing refrigeration and air conditioning equipment is, on the face of it, a straightforward option, with possible performance improvements resulting from use of the latest specification plant. But there are three potential barriers to this being the case.

The biggest issue faced by end users, whatever option that they choose to adopt, is the UK's finite contracting resource. Some contractors known to IDS are already approaching maximum capacity for replacement or conversion projects.

Equipment replacement is also the highest capital cost solution, so is really only an option where existing equipment is in very poor condition or nearing the end of its economic life. This is also subject to a substantial budget being made available to carry out the work.

Another critical factor to be taken into account is plant downtime, particularly where the refrigeration equipment to be replaced forms part of a manufacturing or other essential process.

The lowest investment cost is incurred by converting existing equipment to direct replacement refrigerants. It is by far the simplest, most cost-effective and well-proven option in many cases, particularly given the limited time factor before December 31 2009. User experience confirms that the capital cost can be as little as 10-15 per

cent of the equivalent equipment replacement option.

Equipment conversion will extend the effective life of existing plant as HCFCs become unavailable for servicing. Direct replacement also causes less on-site disruption.

It is clear that there is no one blanket option to suit all end users. It will be a combination of three-pronged approach that is required to ensure that the fast approaching deadline is met. The clearest message of all is that for those who have not already done so, take action now – delaying further is not a practical option. We would hate to be the ones saying "told you so" in 18 months' time.

Peter Dinnage, technical manager, IDS Refrigeration

- **After December 31 2009, it will be illegal to use virgin HCFCs for the maintenance and servicing of refrigeration and air conditioning equipment.**
- **Stockpiling of virgin HCFCs for use after this date will be illegal, with no exceptions or dispensations.**
- **The wholesale and distribution supply chain will, by necessity, start de-stocking HCFCs from mid-2009.**
- **The only legal alternative is to use reclaimed R22, but it will be highly risky to bank on enough reclaimed product being available.**
- **A complete ban on HCFCs, including reclaimed product, takes effect from 2015.**
- **There is also a strong EU lobby to shorten this deadline.**

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