



April 9, 2021

Online for OIRA and OMB

Thanks for the opportunity to comment on the allocations of HFC refrigerants.

I am Rick Roland, owner and engineer for Certified Refrigerant Services, an EPA certified refrigerant reclaimer, for nearly twenty years, here in Florida.

Today my comments are brief, and are focused on cross-contaminated refrigerants, the problem, and our continued efforts to solve this problem.

My comments are summarized in three points.

- 1) Crossed refrigerants are a real problem for the refrigerant reclamation industry, a much bigger problem than estimated.
- 2) Fractional distillation (separation) is a key part of the solution.
- 3) As refrigerants are being re-blended, heading back into the industry, a supply of virgin HFCs would multiply the efforts by as much as 50%.

Point 1)

“Crossed refrigerant”, when .5% of a commercial refrigerant is mixed with another, making its purity 99.5% or less, this refrigerant is not legal for resale, as per the standards of ARI 700. Our experience says that the amount of crossed refrigerant is HUGE!

The EPA report showed 18 million pounds of refrigerant were returned to reclamation facilities (in the US) for processing in 2018. A footnote on this report stated that 975,000 lbs (5%) of the reported refrigerants were “crossed”. As an EPA certified reclaimer, we are required to file an annual report of refrigerants reclaimed, by type. In this report we are not required to submit details concerning “crossed refrigerants”. Without information from the reclaimers, I am sure that this estimate of 5% is wildly underestimated. In real life, recent years have shown 50 to 70% of all used refrigerants are “crossed”. Many reclaimers can distill used refrigerants, but few are capable of separating these “crossed” refrigerants. This single problem threatens the viability of the reclamation industry.

Millions of pounds of crossed refrigerants are generated each year, and with the multitude of blended refrigerants in the market, this problem is growing rapidly.

My prognostication is, soon, nearly ALL used refrigerants returned for reclamation will be “crossed”!

Point 2)

Innovative fractional distillation systems are a viable answer to the question, “how can we get these “crossed” materials back into the market, profitably?

Twenty years ago, separation was simple, you might have some R-22 in your R-12, and the volume was low. Today, a batch of “crossed” refrigerant may have six or eight different components.

After the tedious job of separating a variety of pure components, the task of blending the dozen viable commercial blends begins.

The job of separation and returning the material to the industry is no longer simple! Innovation is key:

- \*designing and building capable fractional distillation columns
- \* high thru put or capacity
- \* ultra low utility cost of operation
- \* easy to operate
- \* affordable
- \* located strategically in the US

Going forward we see large financial investments on our part to complete this very technical and detailed operation of repurposing nearly all used HFCs.

Point 3)

The final step of repurposing refrigerants, and getting them back in to the market, is to blend ARI 700 quality HFC blended refrigerants. The quality components from separation are good, but not yet in ARI 700 specs. A reclaimer with a source for low cost HFCs could combine them with his separated materials, yielding much more quality refrigerants. This could be a 50% boost for a reclaimers production, the much needed boost to his efforts, assuring his ability to support the reclaim industry.

Crossed refrigerants are a big deal!

In my opinion a much bigger problem than estimated.

We are working with industry partner to handle this problem.

We believe that reclamation of all used refrigerants is essential for the environment.

I welcome any comments or discussion

Sincerely,

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