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Ken and Pete,

As we have discussed I have been looking into ways that we can improve the effectiveness of the EPA Reclaimer program. I've taken into consideration improvements to mitigate the risk to the environment and to the overall health and safety of the employees, all with the intention of protecting the image of the Reclamation Industry as being a sustainable steward of the environment.

One point of emphasis that we should consider is the overall safety of the Reclaimer environment. With the introduction of new near flammable and flammable component refrigerants extra care must be taken to handle these materials. When reclamation batches are in the 10k-100k lbs. range a catastrophic failure in the processing can lead to a major release. In the validation process of Reclaimers this must be addressed.

For simplicity I am limiting the scope to just the requirements currently dictated within Section 608. What I am recommending is that these requirements be audited by an accredited 3rd party at some regular interval, every 2-3 years or at any major change within an organization. In the off audit years the business would be able to self-recertify by providing documented evidence of compliance. This will keep cost down to a minimum while still maintain a high level of integrity.

With this said here are the suggestions for auditing, documentation and reporting that Intertek would recommend showing initial and continued compliance to the EPA guidelines, mitigating risk to the environment and providing a safe working environment. These by all means are not definitive criteria, but merely ideas for us and possibly the EPA to further discuss and define if deemed criteria that they would like to pursue.

Checklist for EPA Approval of Refrigerant Reclaimers

1. List the complete name and address of the reclaimer (§82.164(e)(1)). Include the address where reclamation will take place, if it differs from your business address.
 - a) Intertek would verify place of business via actual on-site inspection
 - b) Off years would require copy of current lease.
2. List the names of the business owner and the responsible officer (§82.164(e)(1)) who will serve as an EPA point of contact.
 - a) Intertek would verify employment of contact name
3. List of the equipment used to reprocess the refrigerant (§82.164(e)(2)). If reprocessing equipment was purchased off the shelf, please provide make, model, and serial number. If equipment is generic or was manufactured by the reclaimer, please provide a description and photographs of the equipment and processes. Note that equipment used to recover refrigerant directly from air-conditioning and refrigeration equipment must be certified by ARI or UL under the ARI 700-1995 (2014 or most recent version) Standard



- a) Intertek would visually catalog, photo, schematic reclamation equipment
 - b) Documentation from participant as to what equipment is being used

4. List of the equipment used to analyze the refrigerant (§82.164(e)(2)). If an independent laboratory is used to analyze the refrigerant, submit the name, address, and phone number of the laboratory, and the list of equipment used by the laboratory to analyze the refrigerant. Please submit a letter from the laboratory confirming an agreement with your organization. Be advised that if the laboratory fails to verify refrigerant purity using the methods set forth in ARI 700-1995, you are responsible for this failure.
 - a) Intertek would audit laboratory to confirm testing capabilities to the required ARI-700 test methods. Also confirm that applicant is a regular customer of the lab.
 - b) Off years inspection would require letter from lab that testing processes are still within ARI 700 specifications and that Reclaimer continues to be a customer in good standing.

5. Certification that the refrigerant will be reprocessed to all of the specifications set forth in ARI 700-1995 (2014 or most recent version), Specifications for Fluorocarbon Refrigerants (§82.164(a)) that are applicable to that refrigerant.
 - a) Intertek would verify reports with batch numbers and finished product.

6. Certification that the specifications of the refrigerant will be verified using the methods set forth in ARI Standard 700-1995 (2014) (§82.164(b)). Please be advised that if the laboratory fails to verify refrigerant purity using the methods set forth in ARI 700-1995 (2014), you are responsible for this failure.
 - a) This seems redundant to #4 and 5. Frankly you could do away with #5 and just use #6 as it is ultimately the end goal. Who cares if/how it was processed as long as the end product is tested to and meets ARI 700-1995.

7. Certification that no more than 1.5 percent of the refrigerant will be released during the reclamation process (§82.164(c)).
 - a) Intertek would review logs on refrigerant in and refrigerant out. Oil, water, mixed refrigerants and other wastes will be taken into consideration and a total mass balance calculation will be done. Waste mass will be verified by looking into waste disposal methods and invoices.

8. Certification that wastes from the reclamation process will be disposed of in accordance with all applicable laws and regulations (§82.164(d)).
 - a) Intertek will compare the waste theoretically produced from the processing and compare that to actual masses on waste disposal invoices.



- b) Intertek will validate that Waste disposal service/process conforms with local, state and federal regulations. If a vender is used we will verify appropriate licenses.
- 9. Initial refrigerant screening process – This serves 2 purposes. First it will confirm identification of the refrigerant so they know how to safely process. Second with the proper identification they will be less likely to mix refrigerants. For example R-22 has numerous replacements on the market. The old method of Pressure temp ID does not work as the alternatives all have similar properties. If proper ID is not made refrigerants can be easily mixed and then create a larger volume of waste material which in my opinion has a higher risk of being released to the atmosphere as a method of disposal.
 - a) Intertek will verify that they had an accurate identification process
 - b) Sample handling and logistical process provide low risk of cross contamination
- 10. Inspection of Processing equipment
 - a) Is equipment electrical safe and in compliance with national electric codes and/or standards (UL 1963 for Refrigerant Recovery equipment), Hazardous location flammable atmosphere
 - b) Calibrated equipment, scales, thermometers, gauges etc.. by 3rd party
- 11. Proper MSDS (SDS), PPE and safety considerations
 - a) Verify Proper ventilation and emergency shutdown, cutoff safety features and air monitoring equipment
 - b) Verify that Staff is trained and have appropriate EPA 609 certificate
 - c) Verify appropriate MSDS sheets and chemical information is available
- 12. Acknowledgment that Reclaimers must maintain records of the names and addresses of persons sending them material for reclamation and the quantity of the material (the combined mass of refrigerant and contaminants) sent to them for reclamation. Such records shall be maintained on a transactional basis (§82.166(g)).
 - a) Intertek will verify that information is being recorded
- 13. Acknowledgment that Reclaimers must maintain records of the quantity of material sent to them for reclamation, the mass of refrigerant reclaimed, and the mass of waste products. Reclaimers must report this information to EPA annually within 30 days of the end of each calendar year (§82.166(h)).
 - a) Intertek will verify that information is being recorded and in line with sales, inventory, and waste data. (some % deviation will need to be agreed upon)



14. Acknowledgment that certificates are not transferable-In the event of a change in ownership of an entity which reclaims refrigerant, the new owner of the entity shall certify within 30 days of the change of ownership (§82.164(f)).

a) Intertek shall verify ownership and length of ownership

15. Acknowledgment that it is illegal to sell or offer for sale any CFC or HCFC (do we need to consider HFC, HC, HFO) refrigerant consisting wholly or in part of used refrigerant unless it has been reclaimed by an EPA-certified reclaimer, except in cases where the refrigerant was used only in a motor vehicle air conditioner (MVAC) or MVAC-like appliance and is to be used only in an MVAC or MVAC-like appliance or in cases where the refrigerant is contained in an appliance that is sold or offered for sale together with the refrigerant (§82.154(g) & (h)).

a) NA to an audit, but we can verify that they know of this law

16. Acknowledgment that failure to abide by any of the provisions of 40 CFR 82 may result in revocation or suspension of the certification of the reclaimer (§82.164(g)).

a) NA to an audit, but we can verify that they know of this law

17. Certification that the information given in the certification is true and correct (§82.164(e)(3)).

a) They will sign off on our audit report verifying that everything is honest and accurate

One last recommendation would be that we open the definition of what defines a reclaimer. Currently there are dealers, resalers and separation facilities which all have some hand in the lifecycle of refrigerants, which is what I define as taking used refrigerant off the market, processing and/or packaging it in some way then reselling it back into the market. These requirements should be applicable to those businesses as well if we are to truly protect the environment and maintain the integrity of the industry

As always I'm more than happy to further discuss these in detail and more so with the EPA should we decide to move forward.

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