

APPENDIX B: Form RTL-DS1
ESSENTIAL EQUIPMENT LIST (EEL) (see notes on next page)

___ Yes or ___ No

Purity and non-condensable tests:

- ___ GC (Temperature programmable with FID detector)
- ___ Helium tank, regulator, piping
- ___ Columns (as listed in current Appendix to AHRI 700 for the refrigerants chosen by the laboratory where a Flame Ionization Detector is required)
- ___ Gas sampling valve (as needed for certain refrigerants in current Appendix to ARI 700)
- ___ Other miscellaneous accessories including syringe(s), septum, electronic integrator
- ___ Calibration standards (for each refrigerant listed on application)

- ___ GC(with TCD detector)
- ___ Helium tank, regulator, piping
- ___ Columns (as listed in current Appendix to ARI 700 for the refrigerants chosen by the laboratory where TCD detector is required)
- ___ Gas sampling valve (as needed for certain refrigerants in current Appendix to AHRI 700)
- ___ Calibration standards (for each refrigerant listed on application)

- ___ GC/MS
- ___ Carrier gas supply, regulator, piping
- ___ Columns (please specify in attachment)
- ___ Database/8-peak index for characterization
- ___ Glass collecting tubes
- ___ Calibration standards (for each refrigerant listed on application)

Non-Condensables Test:

- ___ Calibration standard

High Boiling Residue Test:

- ___ Goetz tube with 0.01 mL graduations
- ___ Top loading balance (0.01g accuracy)
- ___ Boileezers
- ___ Aluminum pan
- ___ Calibration standard
- ___ Analytical balance
- ___ Oven
- ___ Constant temperature bath

Acidity and Chloride Test:

- ___ Stir plate
- ___ Buret (10 mL with 0 .05 mL graduations)
- ___ Bromothymol blue indicator solution
- ___ Isopropyl alcohol, toluene, deionized water, alcoholic KOH (0.02 Normal), saturated silver nitrate solution, nitric acid
- ___ Scrubbing bottle with fritted glass dispenser

Moisture Test:

- ___ Karl Fischer Coulometric Titrator
- ___ Anode and cathode solution
- ___ Generator solution
- ___ Calibration standard
- ___ Oven, dessicator, desiccant
- ___ Hypodermic syringe

Miscellaneous Items:

- Vacuum pump
- Vacuum gauges
- Refrigerant hoses
- Capillary tubing (for Karl Fischer analysis)
- Cylinders

NOTES to Essential Equipment List (EEL)

1 The EEL is a checklist of materials and equipment filled out by the applicant as a first step in the Qualification process. Each piece of equipment deemed essential for refrigerant analysis is listed with the accessories needed to use that equipment grouped under it.

2 GC/MS is included as an item on the EEL for the purpose of ensuring that each applicant is capable of analyzing unknown contaminants found during GC analysis. If the applicant employs other instrumentation for the purpose of identifying unknown contaminants, the applicant shall submit an attachment (with the EEL) stating what instrumentation is utilized for this purpose. If the applicant does not have an instrument that can identify unknowns, then that applicant shall submit an attachment (with the EEL) stating the name and address of the subcontracting laboratory which performs this function for them.

3 The applicant shall submit an attachment to the EEL if any "equivalent" instrumentation (other than that listed on the EEL) or methods (other than those found in the current Appendix to AHRI 700) are employed by applicant. The attachments should include a brief statement as to which equivalents are used, and what equipment or method is being replaced.

4 The Laboratory shall review the EEL (with attachments) to discern whether the applicant could perform refrigerant analysis employing the materials and equipment found in the submitted EEL.