This form is to be completed only by contractors officially enrolled in the Quality HVAC program who have successfully completed the QMS-I Technical Training.

QUALITY
Residential HVAC Services

Quality HVAC Program | Quality Maintenance Setup Tier I Checklist

Company Name & CSLB Number:

Household Last Name & Street Number:

Customer email: | Service Date:

DIRECTIONS: This comprehensive checklist is to be completed onsite and uploaded to Iris. Certain key findings -- indicated by thick boxes below -- must be reviewed with and signed off by the customer. This customer review can be done using this checklist or via the Quality Service Report you will get by email. The key findings must also be entered in the online form at https://frontierenergy.formstack.com/forms/qms_i

INSPECTIONS

Attic Insulation — **Results**

4	❍ No Further Attention Needed on Attic Insulation
5	❑ NA – no attic / not accessible
6	❑ Adequate and in good condition
7	❑ Needs minor adjustments
8	❍ Further Attention May Be Needed on Attic Insulation
9	❑ Needs more insulation
10	❑ Needs replacement

Duct Insulation — **Results**

12	❍ No Further Attention Needed on Duct Insulation
13	❑ NA – ductless system
14	❑ NA – ducts not accessible
15	❑ Ducts in conditioned space
16	❑ Adequate and in good condition
17	❑ Vapor barrier has only minor tears or gaps
18	❍ Further Attention May Be Needed on Duct Insulation
19	❑ Inadequate or in very poor condition
20	❑ Vapor barrier has significant tears/gaps or no barrier

Air Filter — **Results**

22	❍ No Further Attention Needed on Air Filter
23	❑ NA – no filter needed
24	❑ Filters are adequate
25	❑ Minor fouling
26	❍ Further Attention May Be Needed on Air Filter
27	❑ Extremely fouled
28	❑ No filter
29	❑ Undersized for system

All sections must be completed. If they are Not Applicable, write "NA" and add an explanation in the comments box.

Remember, boxed values must be entered online

INSPECTION Comments, Recommendations, and/or NA Explanation — 72

Enter anything the customer should know and explain anything that is Not Applicable (NA)

TESTS

System Airflow — **Results**

76	Total Airflow		cfm
77	System Capacity		tons
78	Normalized Airflow		cfm/ton

= total airflow / system capacity; ideally ≥ 350

Temperature Split

System Mode During Test

86	❍ Heating Mode
87	❍ Cooling Mode

Results

89	Supply Air Temperature		°F
90	Return Air Temperature		°F
91	Temperature Split		°F

For **heating** = supply - return, ideally 25-65
For **cooling** = return - supply, ideally 15-25

Charge Test

Rationale for Test	109	❑ Confirmed that Charge Test was Warranted
	110	❑ Bad temperature split
	111	❑ Comfort complaints across rooms
	112	❑ Observed presence of oil suggesting leaks
	113	❑ Other (please explain in comments box)
	115	❑ Did Troubleshooting Before Charge Test
	116	❑ Restricted filter flow
	117	❑ Collapsed/disconnected ductwork
	118	❑ High TESP
	119	❑ High DP across coil
	120	❑ Ducts are too small
Test Procedure	122	Was Lowest Outdoor Air Temperature <55°F? ❍ Yes ❍ No
	125	If YES, how was test done?
	126	❑ In cooling mode with condenser outlet restrictor
	127	❑ Evacuated and used weigh in method
	128	❑ Made plans to return when temperatures are higher
	129	❑ Other (please explain)
	130	Metering Device and Test Completed: ❍ TXV/EXV: did SC test ❍ Fixed Orifice: did SH test
Results	132	Target SC or SH ____ °F (= refrigerant line temp - saturation temp)
	133	Measured SC or SH ____ °F
	134	Difference from Target ____ °F (= target - measured SC or SH; ideally 0)
Diagnosis	136	❑ Charge OK
	137	❑ Charge Too High
	138	❑ Charge Too Low
	139	❑ Another Problem
Resulting Action Taken	141	❑ Discussed with Customer
	142	❑ Recovered Charge
	143	❑ Added Charge
	144	❑ Provided Bid
	145	❑ No Adjustment Made

If **added or recovered charge**, must also address in the *Refrigerant Management* section (field #301), including **taking a photo.**

TEST Comments, Recommendations, and/or NA Explanation	147	

ADJUSTMENTS

Thermostat and Programming

Talked to Occupant About…	241	❑ Thoughts on Current Thermostat and Settings
	242	❑ Current Strategies for Controlling Temperatures
	243	❑ Interest in Advanced Strategies (Including Demand Response, Setbacks, Precooling, Thermostat Eco Modes.)
	244	❑ Recommended Thermostat Schedule
	245	❑ Other Recommendations, ex. Thermostat Upgrade
Adjusted and Confirmed	247	❑ Checked Sensor Calibration and Adjusted as Needed
	248	❑ Reviewed Programming
Scheduled Program	250	❑ NA – Not Needed, Already Efficiently Programmed
	251	❑ Offered but Customer Declined
	252	❑ Thermostat Schedule Programmed
Programming & Overrides	254	❑ Offered Instruction but Customer Declined
	255	❑ Programming and Override Instruction Provided
Setup App or WiFi	259	❑ Offered Assistance but Customer Declined
	260	❑ Assisted Customer in Installing or Connecting App
Uploads	262	❑ PDF or Photo of Recommended or Final Programming

Heat Pump

Settings	265	Supplementary Heating OAT Lockout Setpoint ____ °F (Ideally ≤ 35)
	266	Defrost Delay Timer Setting ____ Minutes (Ideally ≥ 90)

Evacuation and Charging	Refrigerant Management	298	Refrigerant Type		
		299	Cannister Weight Before Adjustment		lb:oz
		300	Cannister Weight After Adjustment		lb:oz
		301	Amount of Refrigerant Added or Recovered		±lb:oz
		302	❑ Upload Photo of Scale After Charging, or Final SC/SH		
		303	Name of Technician		
		304	Date		
		305	Serial Number of Equipment that was Adjusted		
		306	Serial Number of Cannister		
Condenser Coils	Cleaning Criteria	310	❑ Condenser Coil Cleaning Met all Following Criteria:		
		311	❑ High pressure cleaning system was not used		
		312	❑ Caustic or fuming coil cleaning chemicals not used		
		313	❑ Flushed with water		
ADJUSTMENT Comments, Recommendations, and/or NA Explanation		314			

= Reading before - reading after; Ideally = target

SERVICE COMPLETION

Contract	Maintenance Contract	323	❑ Enrolled Customer in Maintenance Contract
		324	❑ Customer Declined Offer of Maintenance Contract
Other Programs	Referral to Other Programs	344a	Review the following programs with the customer: ❑ **TECH Clean California**: $1,000 incentives for new single family heat pump HVAC systems (up to two systems per home). Requirements: 1) must be a TECH-enrolled contractor, 2) project must be a non-heat pump to heat pump installation, 3) no new construction, retrofits only, 4) equipment must be AHRI matched systems, and 5) equipment must meet Title 24 code minimum standards. See https://techcleanca.com/.
		344b	❑ **GoGreen Financing**: GoGreen Home provides California residents with financing for energy efficiency upgrades with zero fees or closing costs and some of the best rates available. Eligibility requires that the property receive electric or natural gas service from PG&E, SDG&E, SCE, or SoCalGas. See https://gogreenfinancing.com/.
		344c	❑ **Self-Generation Incentive Program**: SGIP provides incentives for the installation of qualifying on-site power generation and storage technologies. The current residential incentive is $0.15 per Wh-AC of the system. Advanced approval and funding reservation is required. The program is implemented by your IOU (PG&E, SDG&E, SCE, or SoCalGas). See https://www.selfgenca.com/, or research your IOU's website.
COMPLETION Comments, Recommendations, and/or NA Explanation		346	

SIGNATURES

❑ Electronic signatures will be uploaded later, after review of the emailed Quality Service Report, at:
https://frontierenergy.formstack.com/forms/qhvac_claim_signature_attachment
❑ Signatures have been obtained below after review of boxed values in this checklist

Customer Name	Technician Name
Customer Signature	Technician Signature
I hereby certify that I reviewed the above key findings with the technician. I understand that this does not signify that I am selecting this contractor or accepting this bid.	I hereby certify that I reviewed the above key findings with the home decision maker.

The Quality Residential HVAC Services Program is funded by California utility customers under the auspices of the California Public Utilities Commission and implemented by Frontier Energy under a contract awarded by San Diego Gas & Electric Company (SDG&E®). Customers who choose to participate in this program are not obligated to purchase any additional services offered by the contractor. Actual savings may vary. The trademarks used herein are the property of their respective owners.