

James & Ruth Ponsford
 Project Title
 9 Lourdes Ct Sacramento ca 95831
 Project Address
 Jason Macktinger 916-944-3723
 Documentation Author Telephone
 Prescriptive 12
 Compliance Method (Prescriptive) Climate Zone

9/29/2006
 Date
 Building Permit #
 0615234
 Plan Check / Date
 Field Check / Date
 Enforcement Agency Use Only

Alternative Component Package Method: (check one) _____ C D _____ D (Alternative)
 Package C and Package D choices require HERS rater field verification and/or diagnostic testing (see CF-1R page 3)
 For Package D Alternative see Appendix B Table 151-C Footnotes 7-14

GENERAL INFORMATION

Total Conditioned Floor Area (CFA) 2000 ft² Average Ceiling Height: 8 ft
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C — (5% X CFA) N/A ft²
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C — (20% X CFA) N/A ft²
 Building Type: Single Family Detach Project Type: Alteration
 (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)

Number of Stories: 2 Number of Dwelling Units: 1

Floor Construction Type: Slab

Floor Orientation: E = 090 North / South / East / West / All Orientations (input front orientation in degrees from True North and circle one).

Radiant Barrier (required in climate zones 2, 4, 8-15)

OPAQUE SURFACES INCLUDING OPAQUE DOORS

| Component Type (Wall, Roof, Floor, Slab Edge, | Frame Type (Wood or | Cavity Insulation R-Value | Continuous Insulation R-Value | Assembly U-factor (for wood, metal frame and mass assemblies) | Joint Appendix IV Reference | Roof Radiant Barrier Installed (Yes/No) | Location/Comments (attic, garage, typical, etc.) |
|--|------------------------|------------------------------|----------------------------------|--|-----------------------------|---|--|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

1) See Joint Appendix IV in Section IV.2, IV.3 and IV.4, which is the basis for the U-factor criterion. U-factors can not exceed prescriptive value to show equivalence to R-values.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL

James & Ruth Ponsford

9 Lourdes Ct

9/29/2006

Date

FENESTRATION PRODUCTS - U-FACTOR AND SHGC

FENESTRATION MAXIMUM ALLOWED AREA WORKSHEET WS-4R - must be included for New Construction, Additions and Alterations

| Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight) | Orientation (N, S, E, W) 1 | Area (ft ²) | U-factor 2 | U-factor Source 3 | SHGC 4 | SHGC Source 5 | Exterior Shading/Overhangs 6, 7 Check Box if WS-3R is |
|---|-------------------------------|-------------------------|------------|-------------------|--------|---------------|--|
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |
| | | | | | | | <input type="checkbox"/> |

- 1) Skylights are now included in West-facing fenestration area if the skylights are tilted to the west or tilted in any direction when the pitch is less than 1:12. See §151(f)3C and in Section 3.2.3 of the Residential Manual.
- 2) Enter values in this column are either NFRC Rated value or from Standards default Table 116A.
- 3) Indicate source either from NFRC or Table 116A.
- 4) Enter values in this column from NFRC or from Standards Default Table 116B or adjusted SHGC from WS-3R.
- 5) Indicate source either from NFRC or Table 116B.
- 6) Shading Devices are defined in Table 3-3 in the Residential Manual and see WS-3R to calculate Exterior Shading devices.
- 7) See Section 3.2.4 in the Residential Manual.

HVAC SYSTEMS

| Heating Equipment Type and Capacity (furnace, heat pump, boiler, etc.) | Minimum Efficiency (AFUE or HSPF) | Distribution Type and Location (ducts, attic, etc.) | Duct or Piping R-Value | Thermostat Type | Configuration (Split or Package) |
|--|-----------------------------------|---|------------------------|-----------------|----------------------------------|
| Furnace | 9.00 HSPF | Attic | 6.00 | Programmable | Split |
| 42 kBTU | | | | | |

| Cooling Equipment Type and Capacity (A/C, heat pump, evap) | Minimum Efficiency (SEER or EER) | Duct Location (attic, etc.) | Duct R-Value | Thermostat Type | Configuration (Split or Package) |
|--|----------------------------------|-----------------------------|--------------|-----------------|----------------------------------|
| Heat Pump | 15.00 SEER | Attic | 6.00 | Programmable | Split |
| 42 kBTU | 12.00 EER | | | | |

James & Ruth Ponsford
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9 Lourdes Ct

9/29/2006
Date

SEALED DUCTS and TXVs (or Alternative Measures)

A signed CF-4R Form must be provided to the building department for each home for which the following are required.

| | |
|--------------------------|--|
| <input type="checkbox"/> | Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.) |
| <input type="checkbox"/> | TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.) |
| <input type="checkbox"/> | Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.) |

OR

| | |
|--------------------------|---|
| <input type="checkbox"/> | Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14. |
|--------------------------|---|

OR

| | |
|--------------------------|---|
| <input type="checkbox"/> | For additions and alterations, duct systems that are not documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D. |
|--------------------------|---|

WATER HEATING SYSTEMS

| | |
|--------------------------|--|
| <input type="checkbox"/> | Check box if system meets criteria of a "Standard" system. Standard system is one gas-fired water heater per dwelling unit. If the water heater is a storage type, 50 gallons is the maximum capacity and recirculation system is not allowed. |
| <input type="checkbox"/> | Check box when using Preapproved Alternative Water Heating table, Table 5-4 in Chapter 5 in the Residential Manual. No water heating calculations are required, and the system complies automatically. |
| <input type="checkbox"/> | Check box if system does not meet criteria of "Standard" system, and does not comply with the Preapproved Alternative Water Heating table. In this case, the Performance Method must be used and must be included in the submittal. |
| <input type="checkbox"/> | Check box to verify that a time control is required for a recirculating system pump for a system serving multiple units. |

Systems serving single dwelling units

| Water Heater Type/ Fuel Type | Distribution Type | Number in System | Rated Input (kW or Btu/hr) | Tank Capacity (gallons) | Energy Factor or Thermal Eff. 1 | Standby Loss (%) 1 | Tank External Insulation |
|---------------------------------|-------------------|------------------|----------------------------|-------------------------|---------------------------------|--------------------|--------------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Systems serving multiple dwelling units

| Water Heater Type/ Fuel Type | Distribution Type | Number in System | Rated Input (kW or Btu/hr) 1 | Tank Capacity | Energy Factor or Thermal Eff. 1 | Standby Loss (%) 1 | Tank External Insulation |
|---------------------------------|-------------------|------------------|------------------------------|---------------|---------------------------------|--------------------|--------------------------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

1. For small gas storage water heaters (rated inputs of less than or equal to 75,000 Btu/hr), electric resistance, and heat pump water heaters, list Energy Factor. For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Rated Input, Recovery Efficiency, Thermal Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input and Thermal Efficiencies.

Pipe Insulation (kitchen lines > 3/4 inches) All hot water pipes from the heating source to the kitchen fixtures that are 1/2 inches or greater in diameter shall be thermally insulated as specified by Section 150 (i) 2 A or 150 (j) 2 B.

James & Ruth Ponsford
ProjectTitle

8232 Fair Oaks Blvd

9/29/2006
Date

SPECIAL FEATURES NOT REQUIRING HERS VERIFICATION (add extra sheets if necessary)

Indicate which special features are part of this project. The list below represents special features relevant to the Prescriptive and Performance Method.

| | Feature | Required Forms (if applicable) | Description |
|--------------------------|--------------------------------|---|-------------|
| <input type="checkbox"/> | Metal Framed Walls | CF-1R | |
| <input type="checkbox"/> | Radiant Barriers | CF-1R | |
| <input type="checkbox"/> | Exterior Shades | WS-4R N/A; Performance Calculation | |
| <input type="checkbox"/> | Cool Roof | Required. Attach CRRC Label to Form | |
| <input type="checkbox"/> | Dedicated Hydronic Heating | Performance Calculation Required; Attach Run to Forms. | |
| <input type="checkbox"/> | Combined Hydronic System | Performance Calculation Required; Attach Run to Forms. | |
| <input type="checkbox"/> | Gas Cooling | N/A; Performance Calculation Required | |
| <input type="checkbox"/> | Buried Ducts | N/A; Indicate on building plans. | |
| <input type="checkbox"/> | Kitchen Pipe Insulation | See Section 5.6.2 Distribution Systems in Residential Manual. | |
| <input type="checkbox"/> | Multiple Water Heater | See Table 5-13 or use Performance Calculation and attach Run to Forms | |
| <input type="checkbox"/> | Central Water Heating System | Performance Calculation and attach Run to Forms. | |
| <input type="checkbox"/> | Non-NAECA Large Water Heater | CF-1R | |
| <input type="checkbox"/> | Indirect Water Heater | See Table 5-13 or use Performance Calculation and attach Run to Forms | |
| <input type="checkbox"/> | Instantaneous Gas Water Heater | See Table 5-13 or use Performance Calculation and attach Run to Forms | |
| <input type="checkbox"/> | Solar Water Heating System | See Table 5-13 or use Performance Calculation and attach Run to Forms | |
| <input type="checkbox"/> | Wood Stove Boiler | Performance Calculation and attach Run to Forms | |

SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION

(add extra sheets if necessary) Indicate to the HERS Rater which credits are part of this project and need verification.

| | Feature | Required Forms (if applicable) | Description |
|--|------------------------------|--------------------------------|-------------|
| | Duct Sealing | CF-6R part 4 of 12 | |
| | Refrigerant Charge | CF-6R part 5 of 12 | |
| | Thermostatic Expansion Valve | CF-6R part 6 of 12 | |

0615234

CERTIFICATE OF COMPLIANCE: RESIDENTIAL

(Page 5 of 5)

CF-1R

James & Ruth Ponsford
ProjectTitle

9 Lourdes Ct

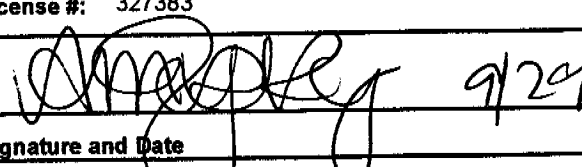
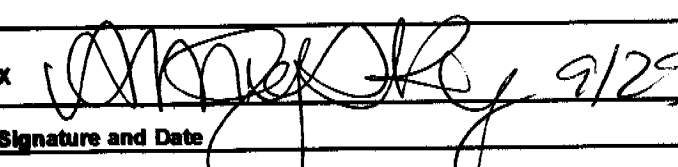
9/29/2006
Date

COMPLIANCE STATEMENT

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. The undersigned recognizes that compliance using duct design, duct sealing, verification of refrigerant charge and TXVs, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business and Professions Code)

Documentation Author

| | |
|---|--|
| Name: Jason Macktinger | Name: Jason Macktinger |
| Title/Firm: Valley Heating & Air | Title/Firm: Valley Heating & Air |
| Address: 8232 Fair Oaks Blvd Carmichael Ca 95608 | Address: 8232 Fair Oaks Blvd Carmichael Ca 95608 |
| Telephone: 916-944-3723 | Telephone: 916-944-3723 |
| License #: 327383 | |
| x  9/29 | x  9/29 |
| Signature and Date | Signature and Date |

Enforcement Agency

| | |
|-----------------------------------|------------------|
| Name: | Comments: |
| Title/Firm: | |
| Address: | |
| Telephone: | |
| X | |
| Signature / Stamp and Date | |

INSTALLATION CERTIFICATE

9 Lourdes Ct
Site Address

Sacramento

ca

95831

Permit Number:

005236

An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

HVAC SYSTEMS:

Heating Equipment

| Equip. Type (pkg. heat) | CEC Certified Mfg. Name, Model, and Serial No. | # of Identical Systems | Efficiency (AFUE, etc) ¹ >(CF-1R value) | Duct Location | Duct or Piping R-Value | Heating Load (kBtu/hr) | Heating Capacity (kBtu/hr) |
|----------------------------|---|------------------------------|--|------------------|------------------------------|------------------------------|----------------------------------|
| Split | AMANA | 1 | 9.00 HSPF | Attic | 6 | | 42 |
| Furnace | MBE20000 | | | | | | |
| | | | | | | | |
| | | | | | | | |

Cooling Equipment

| Equip. Type (pkg. heat pump) | CEC Certified Mfg. Name, Model, and Serial No. | # of Identical Systems | Efficiency (APUE, etc) ¹ >(CF-1R value) | Duct Location | Duct or Piping R-Value | Cooling Load (kBtu/hr) | Cooling Capacity (kBtu/hr) |
|------------------------------------|---|------------------------------|--|------------------|------------------------------|------------------------------|----------------------------------|
| Split | AMANA | 1 | 15.00 SEER | Attic | 6 | | 42 |
| Heat Pump | ASZ14042 | | 12.00 EER | | | | |
| | | | | | | | |
| Coil | Same as Condenser Mfg | | | | | | |
| | CAP4860D6 | | | | | | |
| | | | | | | | |

1. > symbol reads greater than or equal to what is indicated on the CF-1R value. Include both SEER and EER if compliance credit for high EER air conditioner is claimed.

II, the undersigned, verify that equipment listed above is: 1) is the actual equipment installed, 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the Energy Efficiency Standards for residential buildings, and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the Appliance Efficiency Regulations or Part 6), where applicable.

[Signature] 10/5
Signature and Date

Valley Heating & Air

Installing Subcontractor (Co. Name)
OR General Contractor (Co. Name) OR Owner

56

COPY TO: Building Department
HERS-Rater (if applicable)
Building Owner at Occupancy

5030-6

9 Lourdes Ct
Site Address

Sacramento

ca

95831

Permit Number:

0615234

INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

Copies to: Builder, HERS Rater, Building Owner at Occupancy and Building Department

INSTALLER COMPLIANCE STATEMENT

The building was: Tested at Final Tested at Rough-in

INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:

- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.
- Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used

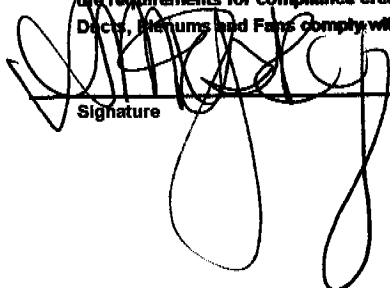
DUCT LEAKAGE REDUCTION

Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3

NEW CONSTRUCTION:

| Duct Pressurization Test Results (CFM @ 25 Pa) | Measured Values | |
|---|-----------------|--|
| 1 Enter Tested Leakage Flow in CFM: | | |
| 2 Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured If Fan Flow is Calculated as 400 cfm/ton x number of tons or as 21.7 cfm(HStat/hr) x Heating Capacity in Thousands of Btu/hr, enter total calculated or measured fan flow in CFM here: | 1400 | |
| 3 Pass if Leakage Percentage < 6% for Final or < 4% at Rough-in: [100 x [_____ (Line #1) / _____ (Line #2)]] | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |
| ALTERATIONS: Duct System and/or HVAC Equipment Change-Out | | |
| 4 Enter Tested Leakage Flow in CFM from Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out. | | |
| 5 Enter Tested Leakage Flow in CFM from Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out. | 113 | |
| 6 Enter Reduction in Leakage for Altered Duct System [_____ (Line #4) Minus _____ (Line #5) - (Only if Applicable)] | | |
| 7 Enter Tested Leakage Flow in CFM to Outside (Only if Applicable) | | |
| 8 Entire New Duct System - Pass if Leakage Percentage < 6% for Final or < 4% at Rough-in [100 x [_____ (Line #5) / _____ Line # 2]] | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |
| TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out | | |
| 9 Pass if Leakage Percentage < 15% [100 x [_____ (Line #5) / _____ Line # 2]] | 8% | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |
| 10 Pass if Leakage to Outside Percentage < 10% [100 x [_____ (Line # 7) / _____ Line # 2]] | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |
| 11 Pass if Leakage Reduction Percentage > 60% [100 x [_____ (Line # 6) / _____ Line # 4]] and Verification by Smoke Test and Visual Inspection | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |
| 12 Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection Pass if One of Lines # 9 through # 12 pass | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

I, the undersigned, verify that the above diagnostic test results were performed in conformance with the requirements for compliance credit. I, the undersigned, also certify that the newly installed or retrofit Air-Distribution System Ducts, Plenums and Fans comply with Mandatory requirements specified in Section 150 (m) of the 2005 Building Energy Efficiency

Signature: 

Date: 10/3/06

Valley Heating & Air

Installing Subcontractor (Co. Name) OR
General Contractor (Co. Name)

56
5030-6

INSTALLATION CERTIFICATE

9 Lourdes Ct

Sacramento

ca

95831

Site Address

Permit Number:

0615236

THERMOSTATIC EXPANSION VALVE (TXV)

Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix RI.

| | | | | |
|---|-----------------------------|---|--|-------------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified. | | |
| | | Yes is a Pass | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> Fail |

REFRIGERANT CHARGE MEASUREMENT PROCEDURE

Verification for Required Refrigerant Charge and Adequate Airflow for Split System Space Cooling Systems without Thermostatic

| | |
|---------------------------------------|---------------------------|
| Expansion Values | |
| Outdoor Unit Serial # | |
| Location | |
| Outdoor Unit Make | |
| Outdoor Unit Model | |
| Cooling Capacity | Btu/hr |
| Date of Verification | |
| Date of Refrigerant Gauge Calibration | (must be checked monthly) |
| Date of Thermocouple Calibration | (must be checked monthly) |

Standard Charge Measurement Procedure (outdoor air dry-bulb 55oF and above):

Procedures for Determining Refrigerant Charge using the Standard Method are available in RACM, Appendix RD2.

Note: The system should be installed and charged in accordance with the manufacturer's specifications before starting this

Measured Temperatures

| | | |
|---|--|---|
| Supply (evaporator leaving) air dry-bulb temperature (Tsupply, db) | | F |
| Return (evaporator entering) air dry-bulb temperature (Treturn, db) | | F |
| Return (evaporator entering) air wet-bulb temperature (Treturn, wb) | | F |
| Evaporator saturation temperature (Tevaporator, sat) | | F |
| Suction line temperature (Tsuction, db) | | F |
| Condenser (entering) air dry-bulb temperature (Tcondenser, db) | | F |

Superheat Charge Method Calculations for Refrigerant Charge

| | | |
|--|--|---|
| Actual Superheat = Tsuction, db - Tevaporator, sat | | F |
| Target Superheat (from Table RD-2) | | F |
| Actual Superheat - Target Superheat (System passes if between -5 and +5°F) | | F |

Temperature Split Method Calculations for Adequate Airflow

Split Method Calculation is not necessary if Adequate Airflow credit is taken

| | | |
|---|--------------|---|
| Actual Temperature Split = T return, db Tsupply, db | | F |
| Target Temperature Split (from Table RD3) | | F |
| Actual Temperature Split Target Temperature Split (System passes if between -3°F and +3°F or, upon remeasurement, if between -3°F and -100°F) | 3°F and +3°F | F |

| | | | |
|--------------|------------|----|------------------------|
| 9 Lourdes Ct | Sacramento | ca | 95831 |
| Site Address | | | Permit Number: 0615234 |

Standard Charge Measurement Summary:

System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated.

Yes No System Passes

Alternate Charge Measurement Procedure (outdoor air dry-bulb below 55 oF)

Note: The system should be installed and charged in accordance with the manufacturer's specifications and installer verification shall be documented on CF-6R before starting this procedure. If outdoor air dry-bulb is 55 oF or above, installer shall use the Standard Charge Measure Procedure:

Procedures for Determining Refrigerant Charge using the Alternate Method are available in RACM, Appendix RD3.

| | | |
|---|--|----|
| Actual liquid line length: | | ft |
| Manufacturer's Standard liquid line length: | | ft |
| Difference (Actual - Standard): | | ft |
| Manufacturer's correction (ounces per foot) _____ x difference in length = _____ ounces (+ = add) (- = remove) | | |

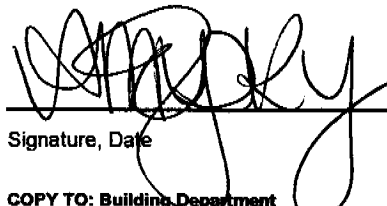
Measured Airflow Method for Adequate Airflow Verification available in RACM, Appendix

| |
|--|
| Calculated Airflow: Cooling Capacity (Btu/hr) _____ X 0.033 (cfm/Btu-hr) _____ CFM |
| Measured Airflow is _____ CFM (Measured airflow must be greater than the calculated) |

Alternate Charge Measurement Summary:

System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated.

Yes No System Passes

 10/5/06
 Signature, Date

Valley Heating & Air
 Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name) OR Owner

COPY TO: Building Department
 HERS Rater (if applicable)
 Building Owner at Occupancy

9 Lourdes Ct Sacramento ca 95831
 Site Address Permit Number: 01015234

FAN WATT DRAW

Procedures for measuring the air handler watt draw are available in RACM, Appendix RE3.2.

| | | | |
|---|--------------------------|---|---|
| Method For Fan Watt Draw Measurement | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | RE3.2.1 | Portable Watt Meter Measurement |
| <input type="checkbox"/> | <input type="checkbox"/> | RE3.2.2 | Utility Revenue Meter Measurement |
| | | Measured Fan watt Draw: | Enter results of Watts/cfm: |
| | | Measured Fan Flow (Enter total cfm from airflow verification) | Enter results of Watts/cfm: |
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Calculated fan watt/cfm is equal to or lower than the fan watt/cfm draw documented in CF-1R | | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |
| Yes is a pass | | | |

ADEQUATE AIRFLOW VERIFICATION

Procedures for field verification and diagnostic testing of adequate airflow are available in RACM, Appendix RE4.1.

| | | | |
|---|---------|---|---|
| Method For Airflow Measurement | | | |
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Duct design exists as plans | | | |
| <input type="checkbox"/> | RE4.1.1 | Diagnostic Fan Flow Using Flow Capture Hood | |
| <input type="checkbox"/> | RE4.1.2 | Diagnostic Fan Flow Using Plenums Pressure Matching | |
| <input type="checkbox"/> | RE4.1.3 | Diagnostic Fan Flow Using Flow Grid Measurement | |
| Measured Airflow: | | | cfm/ton |
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Measured airflow is greater than the criteria in Table RE-2 | | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |

MAXIMUM COOLING CAPACITY

Procedures for determining maximum cooling load capacity are available in RACM, Appendix RF3.

| | | | | | |
|--|--------------------------|-----|--------------------------|----|--|
| 1 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Adequate airflow verified (see adequate airflow credit) |
| 2 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Refrigerant charge or TXV |
| 3 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Duct Leakage reduction credit verified |
| 4 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Cooling capacities of installed systems are ≤ to maximum cooling capacity indicated on the Performance's CF-1R and RF-3. |
| 5 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | If the cooling capacities of installed systems are > than maximum cooling capacity in the CF-1R, then the electrical input for the installed systems must be ≤ to electrical input in the CF-1R. |
| Yes to 1, 2, and 3; and Yes to either 4 or 5 is a pass | | | | | |
| | | | | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |

HIGH EER AIR CONDITIONER

Procedures for verification are available in RACM, Appendix RI.

| | | | | | |
|---|--------------------------|-----|--------------------------|----|--|
| 1 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | EER values of installed systems match the CF-1R For split system, indoor coil is matched to outdoor coil Time Delay Relay Verified (If Required) |
| 2 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | |
| 3 | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | |
| Yes to 1 and 2; and 3 (If Required) is a pass | | | | | |
| | | | | | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |

[Handwritten Signature] 10/5/00

Tests Performed

Signature / Date

Valley Heating & Air
 Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name)

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3-4 of 8)

CF-4R

| | | | |
|---|--|--|--|
| 9 Lourdes Ct - Sacramento, ca 95831 Project Address | | Valley Heating & Air / 327383 Contractor Name / License No. | |
| Contractor Contact Patricia Siedentopf | | Telephone 916-410-5340 | Permit Number 06-15236 |
| HERS Rater <i>Patricia Siedentopf</i> | | Telephone 916-410-5340 | Permit Number 43979 |
| Certifying Signature <i>Patricia Siedentopf</i> | | Date October 18, 2006 | Sample Group Number CC14-1798384567 |
| Firm: Energy Analysis and Comfort Solutions, Inc. | | Date | Certificate Number |
| Street Address: PO Box 2233 | | HERS Provider: CalCERTS | |
| | | City/State/Zip: Orangevale / CA / 95662 | |

Copies to: Homeowner, HERS Provider and Building Department

This CF-4R has been registered with the CalCERTS® registry in accordance with the Title 24 & Title 20 of the CCR. CalCERTS® is an approved HERS provider by the California Energy Commission.

HERS RATER COMPLIANCE STATEMENT

The house was Tested Approved as part of sample testing, but was not tested.

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

The installer has provided a copy of the CF-6R (Installation Certificate).

THERMOSTATIC EXPANSION VALVE (TXV):

Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified.

HVAC System TXV Pass Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 5 of 8)

CF-4R

| | | | |
|--|---|--|-------------------------|
| 9 Lourdes Ct - Sacramento, ca 95831 | | Valley Heating & Air / 327383 | |
| Project Address | | Contractor Name / License No. | |
| | | 06-15236 | |
| Contractor Contact | | Telephone | Permit Number |
| Patricia Siedentopf | | 916-410-5340 | 43979 |
| HERS Rater | Telephone | Sample Group Number | |
| <i>Patricia Siedentopf</i> | | CC14-1798384957 | |
| Certifying Signature | Date | Certificate Number | |
| | October 18, 2006 | | |
| Firm: | Energy Analysis and Comfort Solutions, Inc. | HERS Provider: | CalCERTS |
| Street Address: | PO Box 2233 | City/State/Zip: | Orangavale / CA / 95662 |

Copies to: Homeowner, HERS Provider and Building Department

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HIGH EER AIR CONDITIONER:

Procedures for verification are available in RACM, Appendix RI.

| | | |
|---|--|---|
| 1 | <input type="checkbox"/> Yes <input type="checkbox"/> No | EER values of installed systems match the CF-1R |
| 2 | <input type="checkbox"/> Yes <input type="checkbox"/> No | For split systems, indoor coil is matched to outdoor coil |
| 3 | <input type="checkbox"/> Yes <input type="checkbox"/> No | Time Delay Relay Verified (If Required) |

HVAC System: Yes to 1 and 2; and 3 (If Required) is a pass Pass Fail