|  |  |  |
| --- | --- | --- |
| **A. Whole House Fan Measurement Procedures** | | |
| 01 | Whole House Fan Airflow / Watts Measurement Procedure: |  |

|  |
| --- |
| **MCH-31b Whole House Fan Air Flow and Fan Efficacy – Airflow measured per whole house fan and watts measured as a total value** |

|  |  |  |  |
| --- | --- | --- | --- |
| |  | | --- | | **B. Required Whole House Fan Specifications** | | | |
| 01 | 02 | 03 |
| Fan Name | WHF Modeled Airflow (CFM) | WHF Modeled Fan Power (Watts) |
|  |  |  |
|  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **C. Tested Whole House Fan Equipment Information**   |  | | --- | | Requirements for Whole House Fans are given in Sections 150.1(b)3.B.vi. and 150.1(c)12 | | | | | | |
| 01 | 02 | 03 | 04 | 05 | 06 |
| Fan Name | Fan Location | WHF Manufacturer Name | WHF Model Number | WHF Tested Airflow (CFM) Per RA3.9.4.1 | WHF Tested Watts Per RA3.9.4.2 |
|  |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **D. Whole House Fan Compliance Calculations** | | |
| 01 | Required CFM |  |
| 02 | Installed CFM |  |
| 03 | Required Fan Efficacy (Watts/CFM) |  |
| 04 | Installed Fan Efficacy (Watts/CFM) |  |

|  |
| --- |
| **E. Compliance Statement** |
|  |

|  |  |  |
| --- | --- | --- |
| **F. Additional Requirements** | | |
| 01 | The installed fan shall be listed on the CEC’s Modernized Appliance Efficiency Database as an approved model. | |
| 02 | The homeowner shall be provided with user instructions documentation that describes the proper use of the whole house fan necessary to obtain the full energy savings benefit. | |
| 03 | Verification Status: | * Pass - all applicable requirements are met; or * Fail - one or more applicable requirements are not met. Enter reason for failure in corrections notes field below |
| 04 | Correction Notes: | |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Corrections Notes in this table.** | | |

|  |  |
| --- | --- |
| **G. Determination of HERS Verification Compliance**  All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance. | |
| 01 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Documentation Author's Declaration Statement** | | | |
| 1. I certify that this Certificate of Verification documentation is accurate and complete. | | | |
| Documentation Author Name: | Documentation Author Signature: | | |
| Company: | Date Signed: | | |
| Address: | CEA/HERS Certification Information (if applicable): | | |
| City/State/Zip: | Phone: | | |
| **Responsible Person's Declaration statement** | | | |
| I certify the following under penalty of perjury, under the laws of the State of California:   1. The information provided on this Certificate of Verification is true and correct. 2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater). 3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency. 4. The information reported on applicable sections of the Certificate(s) of Installation (CF2R) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (CF1R) approved by the enforcement agency. 5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy. | | | |
| **BUILDER OR INSTALLER INFORMATION AS SHOWN ON THE CERTIFICATE OF INSTALLATION** | | | |
| Company Name (Installing Subcontractor, General Contractor, or Builder/Owner): | | | |
| Responsible Builder or Installer Name: | | CSLB License: | |
| **HERS PROVIDER DATA REGISTRY INFORMATION** | | | |
| Sample Group Number (if applicable): | | | Dwelling Test Status in Sample Group (if applicable): |
| **HERS RATER INFORMATION** | | | |
| HERS Rater Company Name: | | | |
| Responsible Rater Name: | | | Responsible Rater Signature: |
| Responsible Rater Certification Number w/ this HERS Provider: | | | Date Signed: |

**CF2R-MCH-31b-H User Instructions**

**Section A. Whole House Fan Measurement Procedures**

1. Select the procedure used to measure whole house fan Airflow.
2. Select the procedure used to measure whole house fan Watts.

**Section B. Required Whole House Fan Specifications**

1. Fan name will be auto populated from CF2R.
2. Whole House Fan (WHF) airflow in CFM will be auto populated from CF2R.
3. Whole House Fan (WHF) power in Watts will be auto populated from CF2R.

**Section C. Whole House Fan (WHF) Equipment Information**

1. Fan name will be auto populated by CF2R.
2. Enter the location for each whole house fan.
3. Enter the name of the manufacturer for each whole house fan.
4. Enter the model number for each whole house fan.
5. Enter the tested airflow in CFM per RA3.9.4.1 for each whole house fan.
6. Enter the total tested Watts per RA3.9.4.2 for all whole house fans.

**Section D. Whole House Fan Compliance Calculations**

1. This field is automatically populated from Section B.
2. This field is automatically populated from Section C.
3. This field is automatically populated from Section B.
4. This field is automatically calculated from Section C.

**E. Compliance Statement**

To comply, the total installed whole house fan efficacy must be greater than or equal to the required fan efficacy.

**F. Additional Requirements**

1. To qualify for the whole house fan credit, the installed whole house fans must have been certified to the Energy Commission to meet the necessary requirements. If so, it will appear on the Commission’s list of certified whole house fans. <http://www.energy.ca.gov/title24/equipment_cert/>
2. The homeowner shall be provided with user instructions documentation that describes the proper use of the whole house fan necessary to obtain the full energy savings benefit.
3. Verification Status: If the system meets the criteria for Whole House Fan Compliance Credit Compliance Credit then select "Pass", otherwise select "Fail". The latter selection means that the system does not meet the requirements and the CF1R will have to be revised, or the system will need to be modified to meet the requirements.
4. Correction Notes: If one or more applicable requirements are not met “Fail” will appear in the row above. When this occurs the rater is required to enter detailed notes here that describe what failed and why.

**G. Determination of HERS Verification Compliance**

1. This field is filled out automatically. Compliance requires that all individual criteria pass.

|  |  |  |
| --- | --- | --- |
| **A. Whole House Fan Measurement Procedures** | | |
| 01 | Whole House Fan Airflow/Watts Measurement Procedure: | <<user selection,”Capture Hood and Portable Watt Meter” , “Capture Hood and Revenue Meter” , “Blower Door and Portable Watt Meter” , “Blower Door and Revenue Meter”>> |
| 03 | determine compliance method for this document; display applicable tables below;  (this row not visible to user) | <<Calculated Result:  if A1= Capture Hood and Portable Watt Meter; then display method:“MCH-31a”;elseif A1= “Capture Hood and Revenue Meter”; then display method: “MCH-31b”;  elseif A1= “Blower Door and Portable Watt Meter; then display method:  ”MCH-31c”;  elseif A1= “Blower Door and Revenue Meter”, then display method:  ”MCH-31d”>> |

|  |
| --- |
| **MCH-31b Whole House Fan Air Flow and Fan Efficacy – Airflow measured per whole house fan and watts measured as a total value** |

|  |  |  |  |
| --- | --- | --- | --- |
| |  | | --- | | **B. Required Whole House Fan Specifications** | | | |
| 01 | 02 | 03 |
| Fan Name | WHF Modeled Airflow (CFM) | WHF Modeled Fan Power (Watts) |
| <<Auto populate from CF2R>> | <<Auto populate from CF2R>> | <<Auto populate from CF2R>> |
|  |  |  |
|  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **C. Tested Whole House Fan Equipment Information**   |  | | --- | | Requirements for Whole House Fans are given in Sections 150.1(b)3.B.vi. and 150.1(c)12 | | | | | | |
| 01 | 02 | 03 | 04 | 05 | 06 |
| Fan Name | Fan Location | WHF Manufacturer Name | WHF Model Number | WHF Tested Airflow (CFM) Per RA3.9.4.1 | WHF Tested Watts Per RA3.9.4.2 |
| <<Auto populate from CF2R>> | <<Auto populate from CF2R>> | <<user input, WHF Manufacturer Name, string>> | <<user input, WHF Model Number, string>> | <<user input, WHF Measured Airflow, numeric>> | <<user input, Watts Measured, numeric>> |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **D. Whole House Fan Compliance Calculations** | | |
| 01 | Required CFM | <<calculated field: sum of all *WHF Modeled Airflow (CFM)* values from Table B >> |
| 02 | Installed CFM | <<calculated field: sum of all *WHF Tested Airflow (CFM)* values from Table C |
| 03 | Required Fan Efficacy (Watts/CFM) | <<calculated field: sum of all *WHF Modeled Fan Power (Watts)* / sum of all *WHF Modeled Airflow (CFM)* values from Table B >> |
| 04 | Installed Fan Efficacy (Watts/CFM) | <<calculated field: *WHF Tested Watts* value from Table C / *Installed CFM* from Table D>> |

|  |
| --- |
| **E. Compliance Statement** |
| <<calculated field: if D02 ≥ D01 and D03 ≥ D04, then display result:“ System passes whole house fan requirement.” ; else display result: ”System fails whole house fan requirement.”>> |

|  |  |  |
| --- | --- | --- |
| **F. Additional Requirements** | | |
| 01 | The installed fan shall be listed on the CEC’s Modernized Appliance Efficiency Database as an approved model. | |
| 02 | The homeowner shall be provided with user instructions documentation that describes the proper use of the whole house fan necessary to obtain the full energy savings benefit. | |
| 03 | Verification Status: | <<user pick from list:  \*\*\*Pass - all applicable requirements are met; or  \*\*\*Fail - one or more applicable requirements are not met.  Enter reason for failure in corrections notes field below>> |
| 04 | Correction Notes: <<if Verification Status= Fail, then text entry in this Corrections Notes field is required; user input text>> | |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Corrections Notes in this table.** | | |

|  |  |
| --- | --- |
| **G. Determination of HERS Verification Compliance**  All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance. | |
| 01 | <<if E01 ≠ System fails whole house fan requirements; and F03 ≠ Fail; then display: Complies: All specified verification protocol requirements on this document are met; else display: Does not comply: One or more specified verification protocol requirements on this document are not met >> |

|  |  |  |  |
| --- | --- | --- | --- |
| **Documentation Author's Declaration Statement** | | | |
| 1. **I certify that this Certificate of Verification documentation is accurate and complete.** | | | |
| Documentation Author Name: | Documentation Author Signature: | | |
| Company: | Date Signed: | | |
| Address: | CEA/HERS Certification Information (if applicable): | | |
| City/State/Zip: | Phone: | | |
| **Responsible Person's Declaration statement** | | | |
| I certify the following under penalty of perjury, under the laws of the State of California:   1. The information provided on this Certificate of Verification is true and correct. 2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater). 3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency. 4. The information reported on applicable sections of the Certificate(s) of Installation (CF2R) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (CF1R) approved by the enforcement agency. 5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy. | | | |
| **BUILDER OR INSTALLER INFORMATION AS SHOWN ON THE CERTIFICATE OF INSTALLATION** | | | |
| Company Name (Installing Subcontractor, General Contractor, or Builder/Owner): | | | |
| Responsible Builder or Installer Name: | | CSLB License: | |
| **HERS PROVIDER DATA REGISTRY INFORMATION** | | | |
| Sample Group Number (if applicable): | | | Dwelling Test Status in Sample Group (if applicable): |
| **HERS RATER INFORMATION** | | | |
| HERS Rater Company Name: | | | |
| Responsible Rater Name: | | | Responsible Rater Signature: |
| Responsible Rater Certification Number w/ this HERS Provider: | | | Date Signed: |