|   OMB Control No. 2060-0161  Approval expires 03/31/2019 OMB Control No. 2060-0693  Approval expires 03/31/2019 **APPLICATION FOR a CERTIFICATE OF COMPLIANCE**2015 Clean Air Act (CAA) Standards of PerfoRmance for New Residential Wood Heaters, new residential hydronic heaters and forced-air furnaces 40 cfr PART 60 Subparts AAA and QQQQ (2015 CAA Standards)**The public reporting and recordkeeping burden for this collection of information is estimated to average 8 hours per response.  Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460.  Include the OMB control number in any correspondence.  Do not send the completed form to this address.****Disclaimer: The statutory provisions and the EPA regulations described in this document contain legally binding requirements. This document is not a substitute for those provisions or regulations, nor is it a regulation itself. In the event of a discrepancy, please refer to 40 CFR PART 60 Subparts AAA AND QQQQ, sections 60.537 and 60.5479. If you have additional questions, please contact Rafael Sanchez at 202-564-7028 or via email at** **sanchez.rafael@epa.gov****.****Instructions: Any manufacturer of an affected wood heater must apply to the EPA for a certificate of compliance for each model line. The application must be submitted to: WoodHeaterReports@epa.gov. The application must be signed by a responsible representative of the manufacturer or an authorized representative and must contain the information in this form or under sections 60.533(b) or 60.5475(b).**  |
| --- |
| **GENERAL INFORMATION** |
| **Manufacturer’s Name:** |
| **Heater Type Check one):** | [ ] Adjustable Burn Rate Wood Heater | [ ] Pellet Stove | [ ] Single Burn Rate Heater | [ ] Hydronic Heater | [ ] Forced Air Furnace | [ ] Other: |
| **Hydronic Heater Type (Check one):** | [ ] Full Storage | [ ] Partial Storage | [ ] Indoor  | [ ] Outdoor | [ ] Other: |
| **Forced-Air Furnace Type (Check one):** | [ ] Small (less than 65,000 BTU/hr heat output) | [ ] Large (greater than 65,000 BTU/hr heat output) |
| **Fuel Tested (Check one):** | [ ] Crib | [ ] Pellet | [ ] Cordwood | [ ] Wood Chips | [ ] Other: |
| **Was this appliance tested using an Alternative Test Method (ATM)?:** [ ] **Yes** [ ] **No** **Date of EPA ATM Approval (attach copy of EPA approval):**Click or tap to enter a date.**If not, what Test Method(s) did the test laboratory use for the certification test? (List all applicable test methods):**  | **Equipped with a catalytic combustor?** [ ] **Yes** [ ] **No**  |
| **Model Name(s) (s) (as it appears on test report. In addition, the model name and design number must clearly distinguish one model from another. The name and design number cannot include the EPA symbol or logo or name or derivatives such as “EPA):** |
| **Model Number(s) (as it appears on test report):** |
| **Physical Address (Street number and Address, not P.O. Box):**  | **Mailing Address:** |
| **City:** | **State:** | **ZIP Code:** |
| **Phone:** | **Email:** | **Website:** |
| **Date of Submission of 30-Days Notice to the EPA:**Click or tap to enter a date.**What were the proposed date(s) of testing?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Actual date(s) of testing\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Was the compliance test postponed or suspended?** [ ] **Y** [ ] **N Date of EPA notification:** Click or tap to enter a date.**Explain reason for postponing or suspending compliance test:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| Manufacturer’s INFORMATION |
| **Name(s) of person(s) authorized to complete this application:**  |
| **Position/Title:** |
| **Address (if different from above):**  |
| **City:** | **State:** | **ZIP Code:** |
| **Phone:** | **E-mail:** | **Website:** |
| **Remarks:** |
| EPA-Approved Test Laboratory |
| **Name of Test Laboratory:**  |
| **Name(s) of Person(s) Authorized and/or Responsible for Conducting Compliance Test:**  |
| **Position/Title:** |
| **Address:**  |
| **City:**  | **State:**  | **ZIP Code:**  |
| **Phone:**  | **Email:** | **Website:**  |
| **Remarks:** |

|  |
| --- |
| **EPA-Approved Third Party Certifier** |
| **Name of third-party Certifier:** |
| **Name(s) of Person(s) Authorized and/or Responsible for Reviewing Test Report and/or Issuing Certification of Conformity:**  |
| **Position/Title:** |
| **Address:**  |
| **City:**  | **State:**  | **ZIP Code:**  |
| **Phone:**  | **Email:** | **Website:**  |
| **Remarks:**  |
|  |

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| Compliance Statements and Acknowledgements – Sections 60.533(b) and 60.5475(b)Instructions: Please read the below statements and affirmations and provide a response |
| For emissions data summary tables see attachments  |
| 1. **Engineering Drawings Statement**

Engineering drawings and specifications of components that may affect emissions (including specifications for each component listed in paragraphs (k)(2), (3) and (4) of 60.533(b) and 60.5475(b). Manufacturers may use assembly or design drawings that have been prepared for other purposes, but must designate on the drawings the dimensions of each component listed in paragraph (k) of this section. Manufacturers must identify tolerances of components listed in paragraph (k)(2) of 60.533(b) and 60.5475(b) that are different from those specified in that paragraph, and show that such tolerances cannot reasonably be anticipated to cause wood heaters in the model line to exceed the applicable emission limits. The drawings must identify how the emission-critical parts, such as air tubes and catalyst, can be readily inspected and replaced. |
| 1. **Firebox Statement Requirement**

A statement whether the firebox or any firebox component (including the materials listed in paragraph (k)(3) of 60.533(b) and 60.5475(b) will be composed of material different from the material used for the firebox or firebox component in the wood heater on which certification testing was performed, a description of any such differences and demonstration that any such differences may not reasonably be anticipated to adversely affect emissions or efficiency.  |
| 1. **CBI**

Clear identification of any claimed confidential business information (CBI). Submit such information under separate cover to the EPA CBI Office; Attn: Residential Wood Heater Compliance Program Lead, 1200 Pennsylvania Ave., NW, Room 7149-D, MS:2227A, Washington, DC 20460. **Note that all emissions data, including all information necessary to determine emission rates in the format of the standard, cannot be claimed as CBI.** |
| 1. **Valid Certification Statement**

All documentation pertaining to a valid certification test, including the complete test report and, for all test runs: Raw data sheets, laboratory technician notes, calculations and test results. Documentation must include the items specified in the applicable test methods. Documentation must include discussion of each test run and its appropriateness and validity, and must include detailed discussion of all anomalies, whether all burn rate categories were achieved, any data not used in the calculations and, for any test runs not completed, the data collected during the test run and the reason(s) that the test run was not completed and why. The burn rate for the low burn rate category must be no greater than the rate that an operator can achieve in home use and no greater than is advertised by the manufacturer or retailer. The test report must include a summary table that clearly presents the individual and overall emission rates, efficiencies and heat outputs. Submit the test report and all associated required information, according to the procedures for electronic reporting specified in § 60.537(f) and 60.5475(f).  |
| 1. **Warranties**

A copy of the warranties for the model line, which must include a statement that the warranties are void if the unit is used to burn materials for which the unit is not certified by the EPA and void if not operated according to the owner’s manual. |
| 1. **Q/A Statement**

A statement that the manufacturer will conduct a quality assurance program for the model line that satisfies the requirements of paragraph (m) of this section. |
| 1. **Laboratory Sealing of Unit**

A statement describing how the tested unit was sealed by the laboratory after the completion of certification testing and asserting that such unit will be stored by the manufacturer in the sealed state until 5 years after the certification test. |
| 1. **Statements that the wood heaters manufactured under this certificate will be—**
	1. Similar in all material respects that would affect emissions as defined in § 60.531 to the wood heater submitted for certification testing, and labeled as prescribed in § 60.536 and 60.5478.
	2. Accompanied by an owner’s manual that meets the requirements in § 60.536 and 60.5478. In addition, a copy of the owner’s manual must be submitted to the Administrator and be available to the public on the manufacturer’s web site.
 |
| 1. **Third Party Certification Statement**

A statement that the manufacturer has entered into contracts with an approved laboratory and an approved third-party certifier that satisfy the requirements of paragraph (f) of this section. |
| 1. **Approved laboratory/third party Statement**

A statement that the approved laboratory and approved third-party certifier are allowed to submit information on behalf of the manufacturer, including any claimed to be CBI. |
| 1. **Manufacturer’s Website Certification Test Reports Availability Statement**

A statement that the manufacturer will place a copy of the certification test report and summary on the manufacturer’s web site available to the public within 30 days after the Administrator issues a certificate of compliance. |
| 1. **Transferability Acknowledgement Statement**

A statement of acknowledgment that the certificate of compliance cannot be transferred to another manufacturer or model line without written approval by the Administrator. |
| 1. **Statement about Selling Wood Heaters without an EPA Certificate**

A statement acknowledging that it is unlawful to sell, distribute or offer to sell or distribute an affected wood heater without a valid certificate of compliance. |
| **Print Name and Title:**  | **Date:** |
| Signature of responsible representative of the manufacturer certifying the accuracy of the above statements: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_The authorized or responsible party whose signature is above is certifying that the manufacturer has complied with and will continue to comply with all requirements of the 2015 CAA Standards for compliance certification and that the manufacturer remains responsible for compliance regardless of any error by the test laboratory or third-party certifier. |

**Attachments**

**Instructions: Please complete the section applicable to your certification request. You may substitute your own data tables in lieu of the ones shown below provided that all the information is captured.**

# Wood Burning Heaters

## Test Method 28R for Certification and Auditing of Wood Heaters

## *Summary Results – Adjustable Wood Burning Heaters*

|  |  |  |  |
| --- | --- | --- | --- |
| **Category 1****< 0.80 Kg/hr.** | **Category 2****.80 to 1.00 kg/hr.** | **Category 3****1.25 to 1.90 kg/hr.** | **Category 4****Maximum** |
| Date |  | Date |  | Date |  | Date |  |
| Run Number |  | Run Number |  | Run Number |  | Run Number |  |
| Emission Rate g/Hr. |  | Emission Rate g/Hr.  |  | Emission Rate g/Hr. |  | Emission Rate g/Hr. |  |
| Burn Rate KG/Hr. |  | Burn Rate KG/hr. |  | Burn Rate KG/hr. |  | Burn Rate KG/hr. |  |
| BTU/Hr. (HHV) |  | BTU/Hr. (HHV) |  | BTU/Hr. (HHV) |  | BTU/Hr. (HHV) |  |
| Overall Efficiency (%) |  | Overall Efficiency (%) |  | Overall Efficiency (%) |  | Overall Efficiency (%) |  |
| CO Emissions(g/MJ Output) |  | CO Emissions(g/MJ Output) |  | CO Emissions(g/MJ Output) |  | CO Emissions(g/MJ Output) |  |
| CO Emissions(g/kg Dry Fuel) |  | CO Emissions(g/kg Dry Fuel) |  | CO Emissions(g/kg Dry Fuel) |  | CO Emissions(g/kg Dry Fuel) |  |
| CO Emissions(g/hr) |  | CO Emissions(g/hr) |  | CO Emissions(g/hr) |  | CO Emissions(g/hr) |  |
| ASTM E2515Emissions – First Hour (g/hr) |  | ASTM E2515Emissions – First Hour (g/hr) |  | ASTM E2515Emissions – First Hour (g/hr) |  | ASTM E2515Emissions – First Hour (g/hr) |  |
| **Weighted particulate emission average of X test runs: X grams per hour.** |
| **Weighted average HHV efficiency of X test runs: X%.** |

## *Summary Results – Single Burn Rate Wood Burning Heaters*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Run** | **Burn Rate**(kg/hr dry) | **ASTM E2515 Emissions**(g/hr) | **ASTM E2515****Emissions – First Hour**(g/hr) | **CSA B415.1****Overall heating****efficiency % Based on HHV** | **CSA B415.1****CO emission****g/hr** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Weighted particulate emission average of X test runs: X grams per hour.** |
| **Weighted average HHV efficiency of X test runs: X%.** |

## *Summary Results – Pellet Heaters*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Run Number** | **Date** | **Relative Humidity (%)** | **Run Time (Min.)** | **Heat Output****(Btu/hr)** | **1st Hour Emissions****(g/hr)** | **Integrated Total (g/hr)** | **CO Emissions****(g/hr)** | **Overall CO Emissions****(g/hr)** | **Heating Efficiency****(% HHV)** | **Overall Heating Efficiency (% HHV)** |
| **Setting** | **BR** |
|  |  | H |  |  |  |  |  |  |  |  |  |
|  | M |  |  |  |  |  |  |
|  | L |  |  |  |  |  |  |
|  | OA |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

# Hydronic Heaters

1. **Test Method 28WHH for Measurement of Particulate Emissions and Heating Efficiency of Wood-Fired Hydronic Heating Appliances**

## Table 1A. Data Summary Part A

##

## Table 1B. Data Summary Part B



## Table 1C: Additional (Hangtag) Information

|  |  |  |  |
| --- | --- | --- | --- |
| MANUFACTURER: |  |  |  |
| MODEL NUMBER: |  |  |  |
| MAXIMUM OUTPUT RATING: | Qmax |  | BTU/HR |
| ANNUAL EFFICIENCY RATING: | Ŋavg |  | (Using higher heating value) |
| PARTICLE EMISSIONS: | Eavg |  | GRAMS/HR (average) |
|  |  |  | LBS/MILLION BTU OUTPUT |
| CARBON MONOXIDE: | COg/MIN |  | GRAMS/MINUTE |

## Table 2. Annual Weighting

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Category** | **Weighting Factor (Fi)** | **ηdel,i x Fi** | **Eg/MJ,i x Fi** | **Eg/kg,i x Fi** | **Elb/mmBtu Out,i x Fi** | **Eg/hr,i x Fi** |
| I | 0.437 |  |  |  |  |  |
| II | 0.238 |  |  |  |  |  |
| III | 0.275 |  |  |  |  |  |
| IV | 0.050 |  |  |  |  |  |
| Totals | 1.000 |  |  |  |  |  |

1. **Test Method 28WHH for Certification of Cord Wood-Fired Hydronic Heating Appliances With Partial Thermal Storage**

## Table 2A. Data Summary Part A

|  |  |  |  |  |  | Θ | Wfuel | MCave | Qin | Qout |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Category | Run No | Load % Capacity | Target Load | Actual Load | Actual Load  | Test Duration | Wood Weight as-fired | Wood Moisture | Heat Input | Heat Output |
|  |  | Btu/hr | Btu/hr | Btu/hr | % of max | hrs | lb | %DB | Btu | Btu |
| I |  | < 15% of max |  |  |  |  |  |  |  |  |
| II |  | 16-24% of max |  |  |  |  |  |  |  |  |
| III |  | 25-50% of max |  |  |  |  |  |  |  |  |
| IV |  | Max capacity |  |  |  |  |  |  |  |  |

## Table 2B. Data Summary Part B

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | T2 Min | ET | E | E | Eg/hr | Eg/kg | ηdel | ΗSLM |
| Category | Run No | Load % Capacity | Min Return Water Temp. | Total PM Emissions | PM Output Based | PM Output Based | PM Rate | PM Factor | Delivered Efficiency | Stack Loss Efficiency |
|  |  |  | °F | g | lb/mm Btu Out | g/MJ | g/hr | g/kg | % | % |
| I |  | < 15% of max |  |  |  |  |  |  |  |  |
| II |  | 16-24% of max |  |  |  |  |  |  |  |  |
| III |  | 25-50% of max |  |  |  |  |  |  |  |  |
| IV |  | Max capacity |  |  |  |  |  |  |  |  |

**Table 2C. Data Summary Part C**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Θ1 | Θ2 | Θ3 | CO\_1 | CO\_2 | CO\_3 | COT |
| Category | Run No | Load % Capacity | Startup Time.  | Steady State Time | End Time | Startup CO emission | Steady State CO emission | End CO emission | Total CO emission |
|  |  |  | min | min | min | g | g | g | g |
| I |  | < 15% of max |  |  |  |  |  |  |  |
| II |  | 16-24% of max |  |  |  |  |  |  |  |
| III |  | 25-50% of max |  |  |  |  |  |  |  |
| IV |  | Max capacity |  |  |  |  |  |  |  |

## Table 2D. Data Summary Part D

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | E1 | E2 | E3 | E1\_g/kg | E2\_g/kg | E3\_g/kg |
| Category | Run No | Load % Capacity | Startup PM  | Steady State PM | End PM | Startup PM emission index | Steady State PM emissionindex | End PM emission index |
|  |  |  | g | g | g | g/kg fuel | g/kg fuel | g/kg fuel  |
| I |  | < 15% of max |  |  |  |  |  |  |
| II |  | 16-24% of max |  |  |  |  |  |  |
| III |  | 25-50% of max |  |  |  |  |  |  |
| IV |  | Max capacity |  |  |  |  |  |  |

# Forced-Air FurnaceS

## Forced-Air Furnaces

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Run | Target DeliveredHeat Output Range(BTU/hr) | Actual DeliveredHeat OutputRate(BTU/hr) | Percent ofMaximum Output (%) | First HourEmissions Rate(lbs/mmbtuoutput) | TotalEmissionsRate(lbs/mmbtuoutput) | HHV Heat InputRate(BTU/hr) | DeliveredHHVEfficiency(%) | Overall HHVEfficiency(%) | OverallHeatOutput(BTU/hr) | CO Emissions Rate(g/hr) | ASTM E2515Emissions – First Hour(g/hr) |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  |
| **Average particulate emission average: X Lb/MMbtu output** |
| **Overall thermal efficiency (HHV): X%** |
| **Overall Delivered Heat Efficiency: X%** |