

**Vermont Department of Environmental Conservation**

Air Pollution Control Division  
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*Agency of Natural Resources*

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February 14, 2011

Chuck Gagner, President  
Northwest Manufacturing, Inc.  
600 Polk Ave. SW  
Red Lake Falls, MN 56750

**SUBJECT:** Phase II Certification of Northwest Manufacturing's "FlexFuel 60 KW" Outdoor Wood Boiler under § 5-204 of the Vermont Air Pollution Control Regulations

Dear Mr. Gagner:

The Vermont Air Pollution Control Division (APCD) has completed its review of the information Northwest Manufacturing, Inc. (Northwest) submitted to this office, including the July 2010 test report (No. 274-O-08-3) and the February 2010 test report (No. 274-O-05-3), both prepared by OMNI Test Laboratories, Inc. (OMNI), regarding the model Flex Fuel 60 KW indoor/outdoor wood-fired boiler (OWB). Because the model Flex Fuel 60 KW boiler is a multi-fuel unit, OMNI performed four test runs while the boiler was burning cordwood and then four runs while burning wood pellets. A "buffer" tank was used during the cordwood test providing supplemental heat storage. The test results indicate that the model Flex Fuel 60 KW's particulate matter emissions were 0.04 lbs/million BTUs of heat output (year round weighted average) during the cordwood test and 0.16 lbs/million BTUs of heat output<sup>1</sup> (year round weighted average) during the pellet test, both of which are lower than Vermont's Phase II emission limit of 0.32 lbs/million BTUs of heat output. In addition, the test results indicate that the highest grams/hour emission rates for any individual test run were 6.6 (cordwood) and 6.6 (pellets), both of which are lower than the 18 grams/hour maximum set by §5-204(e)(2)(ii) of the Air Pollution Control Regulations (APCR). USEPA has reviewed the OMNI test reports and has approved the test methods. The test methods used by OMNI are also acceptable under APCR §5-204. Since USEPA has approved the test methods and the testing was performed by an EPA accredited laboratory, the APCD is willing, for this particular test series, to waive the requirement in §5-204 regarding prior notice to the APCD of the testing.

Since the date of USEPA's initial review of these two test reports, technical questions have been raised by various parties regarding the validity of some of the measurements and calculations required by USEPA test method 28 OWHH, which was the primary test method used for testing this OWB model. While these potential discrepancies may have affected the accuracy of the test results, it is the opinion of the APCD that the results are adequate to demonstrate that this model complies with Vermont's Phase II emission limit. The APCD reserves its authority to require

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<sup>1</sup> In the exercise of its authority under APCR §5-204(e), the APCD decided to calculate the results of the wood pellet testing based on all four reported test runs, rather than just the two test runs considered by USEPA.

*(continued on next page)*

additional emission testing in the future and/or to revoke this certification, if it determines that the certification testing was not valid.

Thank you for providing this office with detailed engineering drawings and specifications for the model Flex Fuel 60 KW, as required by §5-204(e)(3)(i). This information was included with the CBI portions of the test data, both of which will be kept confidential, as requested in your *Application For Confidential Treatment Of Proprietary Information* received by e-mail on November 4, 2010, as amended by your e-mail dated February 10, 2011. We will expect that all units designated with the model number Flex Fuel 60 KW will have the same specifications, within acceptable manufacturing tolerances, and that any components of these units that may affect emissions will be composed of the same materials as those in the tested unit. Please let me know immediately if this assumption is not accurate.

Based on the APCD's and USEPA's review of the information submitted by Northwest on November 4, 2010 and subsequent dates, and the conditions noted above concerning specifications and materials, the APCD has determined that the model Flex Fuel 60 KW OWB equipped with a properly sized buffer tank complies with the Phase II emission limit in §5-204(e)(2)(ii) of the APCR and may be distributed or sold for use in Vermont on or after the date of your receipt of this letter. **Please note that a properly sized buffer tank as described in your owner's manual must be included with each boiler distributed or sold for installation in Vermont.** This certification shall expire five (5) years after the date of its issuance, unless revoked sooner pursuant to APCR §5-204(e)(4). Cause for revocation of this certification may include a finding that one or more of the subject units was distributed or sold for installation in Vermont without the required buffer tank.

I would like to take this opportunity to remind you of a related obligation that Northwest has under APCR §5-204(e)(5), "Notification by Manufacturers". When an OWB model is certified, this subsection requires the manufacturer to give written notification to its dealers and others who sell or may be selling your OWBs for use in Vermont. This notice should list all the OWB models being sold by Northwest and specifically identify the model Flex Fuel 60 KW as having been approved to be distributed or sold for use in Vermont. Please provide a copy of this written notice and a list of the addressees and their locations to this office when the mailing is completed.

Thank you for Northwest's interest in reducing the air contaminant emissions from outdoor wood-fired boilers. If you have any questions about this letter, please contact me or Chris Jones of my staff at (802) 241-3840.

Sincerely,



Richard A. Valentinetti, Director  
Air Pollution Control Division

cc: Amanda Aldridge, USEPA, OAQPS, RTP, NC  
Lisa Rector, NESCAUM