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Pellet Fuels Institute

North American Grading and Quality Management System for Residential/Commercial Densified Fuel

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1 PFI NORTH AMERICAN RESIDENTIAL/COMMERCIAL DENSIFIED FUEL GRADING PROGRAM BACKGROUND AND GOAL

The goal of the following grading program is to secure the supply of standardized residential/commercial densified fuel that can be fired trouble-free in commercially available residential/commercial densified fuel combustion appliances.

To assure the consistent quality of graded densified fuel leaving the production facility, this grading program includes the manufacturing process, finished product quality verification, packaging and storage of product.

Three densified fuel grades are defined including Premium, Standard, and Utility. These grades are based on PFI's Standard Specifications for Residential/Commercial Densified Fuel.

This certification system contains the following essential components:

- Specifications for Residential/Commercial Densified Fuel
- Third party independent oversight by an accreditation body
- Accreditation of auditing agencies and testing laboratories
- Qualification of densified fuel production facilities
- A Quality Mark for compliant materials
- A registration system for all compliant entities
- Enforcement actions for non-compliance

This grading program shall be reviewed and revised as necessary.

2 PROGRAM DOCUMENTS

PFI Standard Specification for Residential/Commercial Densified Fuel

PFI Residential/Commercial Densified Fuel QA/QC Handbook

3 PROGRAM ASSIGNMENT OF RESPONSIBILITIES

3.1 Issuer

The Pellet Fuels Institute (PFI) with corporate offices located in Arlington, VA shall be deemed the issuer and maintainer of this program. PFI shall enter into an agreement with an accreditation body to provide independent oversight of this program. PFI shall provide a formatted Quality Mark template for compliant product as well as a web based registry identifying the accreditation body as well as all accredited auditing agencies, accredited testing laboratories, and qualified production facilities.

3.2 Accreditation Body

The Accreditation body shall be deemed the implementer and enforcer of this program. The accreditation body shall accredit auditing agencies and testing laboratories and shall evaluate effectiveness in accordance with Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations, and other applicable documents. Effectiveness will be evaluated by means of inspections performed by auditing accredited agencies and qualified densified fuel production facilities. The accreditation body will also maintain a densified fuel laboratory proficiency program for all accredited testing laboratories.

3.3 Accredited Auditing Agencies

Accredited auditing agencies shall provide initial assurance that densified fuel producers have properly implemented PFI's Residential/Commercial Densified Fuel QA/QC Handbook and developed a written quality management system. In addition, auditing agencies shall enforce the program by performing audits in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations, and other applicable documents.

3.4 Accredited Testing Laboratories

Accredited testing laboratories shall conduct all testing in accordance with the methodology outlined in PFI's Standard Specification for Residential/Commercial Densified Fuel and in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations. Qualified densified fuel production facilities shall use accredited testing laboratories as necessary to demonstrate product quality. Auditing agencies shall use accredited testing laboratories to analyze samples collected during audits. Accredited testing laboratories shall participate in the densified fuel laboratory proficiency program maintained by the accreditation body.

3.5 Qualified Densified Fuel Production Facilities

Qualified densified fuel production facilities are production facilities that have successfully implemented PFI's Residential/Commercial Densified Fuels QA/QC Handbook and have demonstrated through audit and testing that the densified fuel, as well as the process used to produce the fuel, is in compliance with PFI's Standard Specifications for Residential/Commercial Densified Fuel and PFI's Residential/Commercial Densified Fuel QA/QC Handbook. Densified fuel production facilities must maintain compliance with both standards.

4 PROGRAM

4.1 Overview

The essential components of the program are:

- PFI enters into an agreement with an accreditation body to provide independent oversight of the program.
- The accreditation body accredits auditing agencies and testing laboratories in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.
- Accredited auditing agencies inspect densified fuel production facilities to verify compliance with PFI Standard Specification for Residential/Commercial Densified Fuel as well as with PFI Residential/Commercial Densified Fuel QA/QC Handbook, and other applicable documents.
- Accredited testing laboratories provide independent third party testing to densified fuel producers as needed for internal QA/QC purposes to demonstrate the quality of densified fuel produced.
- Accredited testing laboratories provide independent third party testing for samples collected by accredited auditing agencies during inspections.
- Accredited auditing agencies enter into a contractual agreement with densified fuel production facilities that are found to be in compliance with program requirements.
- Qualified densified fuel production facilities are monitored by accredited auditing agencies to verify continued compliance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations, which require conformance to requirements.

- Accredited auditing agencies and accredited testing laboratories are monitored by the accreditation body in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.
- PFI provides a web based registry of the accreditation body, accredited auditing agencies, accredited testing laboratories, and certified densified fuel production facilities.
- Accreditations, qualifications and/or registrations are revoked if compliance is not maintained.
- PFI provides a formatted Quality Mark template for all compliant product.
- PFI maintains the Standard Specifications for Residential/Commercial Densified Fuel and the Residential/Commercial Densified Fuel QA/QC Handbook.
- The accreditation body maintains the Residential/Commercial Densified Fuel Enforcement Regulations.
- The accreditation body pursues product complaints and will report any misuse of the Quality Mark. Misuse of the Quality Mark will be pursued by PFI.

4.2 Accreditation Body

PFI shall enter into an agreement with an accreditation body to independently oversee the program.

4.2.1 Accreditation Body Selection

PFI will select an accreditation body based on the needs of the residential/commercial densified fuels industry, including the needs of densified fuel consumers, producers, retailers, distributors, suppliers and appliance manufacturers. PFI's selection will also be based on the need to comply with any applicable Federal, State, and/or local regulations. All agreements with the accreditation body will be reviewed periodically. The accreditation body will be monitored periodically through direct communications.

4.2.2 Major Changes

The accreditation body shall immediately report major changes to the PFI. Major changes are all changes to the organization structure or responsibilities that may affect the ability of the accreditation body to manage and oversee this program.

Such changes may include loss or reassignment of key staff, conflicts of interest, or the acceptance of additional responsibilities that may reduce the time and attention dedicated to this program.

4.2.3 Accreditation Body Fees

The accreditation body will be charging fees to all accredited auditing agencies and accredited testing laboratories. These fees will be used to pay for the services of the accreditation body.

4.3 Accreditation of Auditing Agencies

Auditing agencies will be accredited by the accreditation body in accordance with the Accreditation Body Residential/Commercial Densified Fuels Enforcement Regulations.

4.3.1 Accreditation Process

To gain accreditation, prospective auditing agencies must contact the accreditation body. The accreditation body will issue an application as well as a copy of the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations, PFI Residential/Commercial Densified Fuel QA/QC Handbook, and PFI's Standard Specifications for Residential/Commercial Densified Fuel. The prospective auditing agency must complete and submit the application to the accreditation body. After review of the application, an initial audit of the auditing agency will be performed by the accreditation body to verify compliance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations. If deficiencies are found during the audit the applicant must prove to the accreditation body that corrective measures have been taken. Once all deficiencies have been corrected the application will be considered for approval.

4.3.2 Accreditation Monitoring

Accredited auditing agencies are monitored by the accreditation body in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.

4.3.3 Major Changes

The accredited auditing agency shall immediately report major changes to the accreditation body. Major changes are all changes to the organization structure or responsibilities that may affect the ability of the accredited auditing agency to manage and oversee the qualified densified fuel production facilities. Such changes may include loss or reassignment of key staff, conflicts of interest, or the

acceptance of additional responsibilities that may reduce the time and attention dedicated to this program.

4.3.4 Accreditation Fees

Applicants will be charged fees as determined by the accreditation body.

4.3.5 Accreditation Registration

The accredited agency will be published on the accreditation body's website. In addition, PFI will be informed by the accreditation body and the accredited auditing agency will be entered into a register with all other accredited auditing agencies on the PFI website.

4.3.6 Appeals Process

Appeals will be processed per the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.

4.4 Accreditation of Testing Laboratories

Testing laboratories will be accredited by the accreditation body in accordance with the Accreditation Body Residential/Commercial Densified Fuels Enforcement Regulations and PFI Standard Specifications for Residential/Commercial Densified Fuel.

4.4.1 Accreditation Process

To gain accreditation, prospective testing laboratories must contact the accreditation body. The accreditation body will issue an application as well as a copy of the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations and PFI Standard Specifications for Residential/Commercial Densified Fuel. The prospective testing laboratory must complete and submit the application to the accreditation body. After review of the application, an initial audit of the testing laboratory will be performed by the accreditation body to verify compliance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations and PFI Standard Specifications for Residential/Commercial Densified Fuel. If deficiencies are found during the audit the applicant must prove to the accreditation body that corrective measures have been taken. Once all deficiencies have been corrected the application will be considered for approval.

4.4.2 Accreditation Monitoring

Accredited testing laboratories are monitored by the accreditation body in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations and PFI Standard Specifications for Residential/Commercial Densified Fuel.

4.4.3 Major Changes

The accredited testing laboratory shall immediately report major changes to the accreditation body. Major changes are all changes of the technical equipment as well as the operation processes or the company organization that must be reported during the application process or are required as part of the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations or PFI Standard Specifications for Residential/Commercial Densified Fuel.

4.4.4 Laboratory Proficiency Testing Program

All accredited testing laboratories must participate in a densified fuel laboratory proficiency program administered by the accreditation body.

4.4.5 Accreditation Fees

Applicants will be charged fees as determined by the accreditation body.

4.4.6 Accreditation Registration

The accredited testing laboratory will be published on the accreditation body's website. In addition, PFI will be informed by the accreditation body and the accredited testing laboratory will be entered into a register with all other accredited testing laboratories on the PFI website.

4.4.7 Appeals Process

Appeals will be processed per the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.

4.5 Qualification of Densified Fuel Production Facilities

Densified fuel production facilities will be qualified by accredited auditing agencies in accordance with PFI Standard Specifications for Residential/Commercial Densified Fuel, the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations, PFI Residential/Commercial Densified Fuels QA/QC Handbook and the production facility's written quality management system.

4.5.1 Process

To gain qualification, prospective densified fuel production facilities must enter into a contract with an accredited auditing agency. The accredited auditing agency will issue an application as well as a copy of PFI Residential/Commercial Densified Fuel QA/QC Handbook, PFI Standard Specifications for Residential/Commercial Densified Fuel, and the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations. The prospective densified fuel production facility must complete and submit the application to the accredited auditing agency. After reviewing the application, an initial audit of the densified fuel production facility will be performed by the accredited auditing agency to verify compliance with PFI Residential/Commercial Densified Fuel QA/QC Handbook and PFI Standard Specifications for Residential/Commercial Densified Fuel. If deficiencies are found during the audit the applicant must prove to the accredited auditing agency that corrective measures have been taken. Once all deficiencies have been corrected the accredited auditing agency will qualify the applicant.

4.5.2 Monitoring

Qualified densified fuel production facilities are monitored by the accredited auditing agency in accordance with the Accreditation Body Residential/Commercial Densified Fuel Enforcement Regulations.

4.5.3 Major Changes

The qualified densified fuel production facility shall immediately report major changes to the accredited auditing agency. Major changes are all changes of the production and/or technical equipment as well as the operation processes or the company organization that must be reported during the application process or are required as part of PFI Residential/Commercial Densified Fuel QA/QC Handbook or PFI Standard Specifications for Residential/Commercial Densified Fuel.

4.5.4 Fees

Applicants will pay fees as determined by the terms of their contract with the accredited auditing agency.

4.5.5 Registration

Once qualification is complete, accreditation body will be informed, PFI will be informed, and the certified densified fuel production facility will be entered into a register with all other certified densified fuel production facilities on the PFI website.


4.5.6 Objection Proceedings

If densified fuel production facilities observe fraudulent or otherwise unethical practices by either auditing agencies, laboratories, or other densified fuel manufacturers, then these practices should be reported to the accreditation body or to PFI.

5 QUALITY MARK

When qualified by an accredited agency, a densified fuel production facility acquires the right to use a Quality Mark to label the qualified product(s) and to use for advertising purposes. The Quality Mark must be exclusively used in direct connection with the qualified product(s). Qualified densified fuel production facilities who manufacture quality marked and non-quality marked products must avoid the impression that the complete production and traded quantities are qualified.

The Quality Mark must be displayed as follows:

PFI GRADED FUEL		
PFI Densified Fuel Grade: Premium		
Grade Requirements: <small>Reg. #1234</small>		
Bulk Density:		40–46 lbs/ft ³
Diameter:		.230–.285 in/5.84–7.25 mm
Durability:		≥96.5
Fines:		≤0.50%
Ash Content (as received):		≤1%
Length:		≤1% >1.5 in.
Moisture:		≤8.0%
Chlorides:		≤300 ppm
Manufacturers Guaranteed Analysis:		
Type of Material:		Softwood fiber
Additives:		2.0% corn oil by weight
Minimum Higher Heating Value (as received):		8,000 BTU
Other Manufacturers Guarantees:		
Approved Auditing Agency Logo Displayed Here		
<small>For more information, please visit the PFI website at www.pelletheat.org.</small>		

This Quality Mark will incorporate an accreditation body approved accredited auditing agency logo on the left, lower third of the label. The Quality Mark will be displayed on the front, lower third of the bag. In the case of bulk shipments the quality mark shall be provided with commercial documentation. Additives may not exceed two percent by weight and the additive type must be stated. Materials must also be disclosed. Material classifications may include: hard wood, soft wood, mixed hard wood and soft wood, agricultural grasses, nutshells, etc. Higher heating value is to be stated on an as-received basis and must reflect a minimum BTU guarantee that is demonstrate able through audit samples. Densified fuel producers may provide additional guarantees on the Quality Mark for other grade parameters outlined in Table 1 of PFI Standard Specifications for Residential/Commercial Densified Fuel provided they can reliably demonstrate their claim through the audited samples collected at the production facility. An example of such a guarantee is as follows: Maximum Ash Content (As-Received): <0.50%

Densified fuel production facilities that are not qualified in accordance with this program are not authorized to use the Quality Mark.

6 ACCREDITATION AND QUALIFICATION REVOCATION

When a violation(s) of the regulations of this program occurs or when noticed defects continue despite repeated demands, the applicable accreditation or qualification may be revoked. The accreditation body shall perform the duty of revoking accreditations if necessary from auditing agencies and testing laboratories. The accredited auditing agency shall perform the duty of revoking qualification if necessary from densified fuel production facilities that they are under contract with.

For densified fuel producers that have several locations, the qualification shall be suspended for the location where the defects have been assessed until they have been corrected. All other production facility locations may still be labeled as quality marked product.

In cases where the qualification is revoked, the company can re-apply when full compliance is achieved.

7 PROGRAM MISUSE REPORTING PROCEDURES

When consumers, retailers, appliance manufacturers, industry suppliers, densified fuel producers, testing laboratories, auditing agencies or any other industry interest identifies

a misuse of the program or the Quality Mark, immediately contact the accreditation body to report the activity. Such misuse may include:

- Use of the Quality Mark for non-qualified material
- Use of similar markings designed to imitate the Quality Mark
- Continued use of the Quality Mark after the revocation of qualification
- Displaying a Quality Mark with incorrect grade or quality claims
- Claims of qualification or accreditation when qualification or accreditation has not in fact been achieved.

The accreditation body will pursue product complaints and will report any misuse of the Quality Mark. Misuse of the Quality Mark will be pursued by PFI.

8 PROGRAM MAINTENANCE

PFI will review and update this document to assure that it continues to reflect the needs of the residential/commercial densified fuel industry.