

AMERICAN LUMBER STANDARD COMMITTEE, INCORPORATED®

**RESIDENTIAL/COMMERCIAL DENSIFIED FUEL
ENFORCEMENT REGULATIONS**

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1. INTRODUCTION

1.1 General

1.1.1 This program is intended to establish a common basis for uniform, industry-wide inspection and quality marking procedures for residential or commercial densified fuels produced in accordance with the provisions hereof.

1.2 Covered Products

1.2.1 These regulations are applicable for the determination of fuel quality grade for densified fuel products as defined in the Pellet Fuels Institute (PFI) *Standard Specifications for Residential/Commercial Densified Fuel*.

2. STANDARDS AND TEST PROCEDURES

2.1 The commodities and test methods to be used in this program shall be those referenced in the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard, *PFI Residential/Commercial Densified Fuel QA/QC Handbook* or other applicable standards.

2.2 Regular verification of the quality of densified fuel produced by a manufacturer shall be carried out by an inspection agency accredited by the Board of Review of the American Lumber Standard Committee (ALSC).

2.3 The detailed procedures by which the agency shall monitor the above standards shall be those approved by the Board of Review.

2.4 Board of Review activities involves verification of the inspection agencies' abilities and performance.

2.5 Definitions

Accreditation Criteria - A set of requirements used by the Board of Review which an agency or a laboratory must meet to be accredited.

Additives – Any substance other than cellulosic material that has been intentionally introduced into the fuel feed stock prior to pellet extrusion (except steam/water). Grease or other lubricants that are introduced into the fuel processing stream as part of normal mill operations are not

considered as additives.

Bag Weight – The weight of the fuel plus the bag, determined by weighing a standard bag of fuel.

Board of Review - The Board of Review of the American Lumber Standard Committee as established by Section 10 of PS-20.

Bulk Density – the fuel mass per cubic foot of the fuel sample; determined by ASTM E873 *Standard Test Method for Bulk Density of Densified Particulate Biomass Fuels* as modified by *PFI Standard Specifications for Residential/Commercial Densified Fuel*.

Chemically Treated Materials –Any feed stock material (cellulosic or otherwise) that has at any time been processed, formed, treated or contaminated with any bonding agent, resin, preservative, surface coating or other finish, or any other chemical compound. Grease or other lubricants that are introduced into the fuel processing stream as part of the normal maintenance operations are not considered as chemically treated materials. Incidental chemical contamination from the marking of logs and lumber is not considered as chemically treated.

Densified Fuel – Biomass intended for use as fuel that has undergone a process to increase bulk density and energy density.

Diameter – The average diameter of the fuel pellets in the fuel sample.

Fines – The percentage of fuel material in the fuel sample passing through a 1/8 inch screen when the fuel is sampled and tested in accordance with the requirements in 8.1.4 and Annex C.1 of the *PFI Standard Specification for Residential/Commercial Densified Fuel*.

Heating Value – The higher heating value of the fuel sample as determined by ISO 18125 *Solid Biofuels – Determination of Calorific Value*.

Heavy Metals – High atomic weight elements that are considered undesirable in combusted materials. For the purpose of this program the heavy metals referenced in ISO 17225-2 (*Solid Biofuels – Specifications and Classes – Graded Wood Pellets*) to include Arsenic (As), Cadmium (Cd),

Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), and Zinc (Zn) are considered heavy metals of interest.

Inorganic Ash – The percentage of inorganic material in the fuel sample as determined by ASTM D1102 *Standard Test Method for Ash in Wood*.

Laboratory - Any laboratory, not owned or operated by a densified fuel manufacturer, that is affiliated with or contracted by one or more inspection agencies to perform analyses on densified fuel.

Laboratory Assessment - The on-site examination of a laboratory to evaluate its compliance with specified criteria.

Laboratory Accreditation - A formal recognition that a laboratory is competent to carry out specific tests.

Length – The weight percent of pellets exceeding 1.5 inches in length in the fuel sample.

Logo - A symbol or trade mark which identifies an inspection agency or standards writing organization.

Moisture – The moisture content of the as-received fuel sample as determined by ASTM E871 *Standard Test Method for Moisture Analysis of Particulate Wood Fuels*.

NIST – The National Institute of Standards and Technology (NIST) is a federal technology agency that develops and promotes measurement, standards and technology.

Pellet Durability Index (PDI) – A standardized parameter for specifying the ability of the fuel pellets to resist degradation caused by shipping and handling.

Quality Control Agency - An organization accredited by the Board of Review to sample and test quality marked densified fuels manufactured in accordance with quality control and inspection procedures. The quality control agency shall have no financial interest in any company producing any portion of the densified fuels inspected and tested. The quality control agency shall not be owned, operated or controlled by any such

company.

Quality Mark - The mark of the Pellet Fuels Institute in conjunction with an agency accredited by the Board of Review indicating product conformance to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other referenced documents. The mark indicates that all of the actions and quality requirements under the agency's quality control and inspection procedures have been met by both the manufacturer and the quality control agency which licenses the use of the mark by densified fuel manufacturers.

Traceability of the Accuracy of Measuring Instruments - A documented chain of comparison connecting the accuracy of a measuring instrument to other measuring instruments of higher accuracy and ultimately to a primary standard.

3. DENSIFIED FUEL MANUFACTURER QUALIFICATIONS

3.1 Manufacturer Equipment--Must comply with Section 6.8--Equipment and Operating Processes requirements outlined within *PFI Residential/Commercial Densified Fuel QA/QC Handbook*.

3.2 Manufacturer Records

3.2.1 Each manufacturer shall maintain records as outlined within *PFI Residential/Commercial Densified Fuel QA/QC Handbook*.

3.5 Internal Quality Control

3.5.1 Maintaining quality is the responsibility of the manufacturer management. Internal quality control procedures shall be performed to a degree that assures compliance of the densified fuel product to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents. Production found non-conforming to the fuel grade requirements shall have its quality mark obliterated or relabeled with a quality mark of the next lower fuel grade provided the production meets all the requirements of the lower fuel grade.

3.5.2 Management shall appoint an adequately trained employee as manufacturer quality manager. He shall be vested with the authority to

correct any condition causing a non-conformance, to remove the quality mark from any material that does not conform to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents, and to stop shipments of quality marked non-conforming material.

3.5.3 Any densified fuel manufacturer qualifying for, and maintaining, the reduced audit sample testing frequencies specified in Section 6.10 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook* and Section 4.3.3 must establish an in-house testing lab that is capable of testing for bulk density, fines, length, diameter, durability, and moisture. All tests must be verified to provide accurate results by cross checking with an ALSC accredited lab as outlined in Section 6.9 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook*. In addition, the in-house test data must also demonstrate that the facility is within compliance of the grade requirements specified in the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard. Samples must be collected at least twice per day or once per shift whichever generates the larger number of samples. Samples shall consist of bags of product as it would typically be shipped or directly from a bulk load out, if bulk delivery is performed. Records shall be kept of all sample testing and available for review per Section 6.10 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook*.

4. INSPECTION AGENCY ACCREDITATION

4.1 Approval

4.1.1 The initial and continuing accreditation of an agency to provide inspection services under these regulations is contingent upon providing reliable and adequate inspection services in accordance with the current and applicable *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents. The Board of Review will use these regulations to judge the competency, reliability and adequacy of densified fuel quality control agencies.

4.2 Participation in this program

4.2.1 Any agency is eligible to participate in

this program established herein if that agency:

(a) Formulates, publishes and maintains quality control and inspection procedures for the specific densified fuel, which it inspects, and which are covered by the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents.

(b) Demonstrates initial and continuing competency and reliability in the field of the densified fuel inspection.

(c) Agrees to pay charges and fees assessed by the ALSC.

4.2.2 Any agency desiring to participate in this program shall apply in writing to the Manager of the Board of Review in such form as may be prescribed by the Manager. If the application is in proper order, the Manager shall promptly forward the application to the Board of Review for its consideration and the Manager shall undertake any further investigations of the applicant as may be requested by the Board of Review. The applying agency shall be responsible for the fees established to cover expenses incurred in conducting the qualification, including the cost of accreditation of quality control laboratories. Such fees to be paid in advance.

4.3 Accreditation Requirements

Before accrediting the inspection services of any agency, the Board of Review shall require evidence that the agency conforms to the following requirements:

4.3.1 It shall not be controlled by any person or firm whose own products are subject to its inspection and certification nor shall its inspectors be employed by any densified fuel manufacturer or producer of densified fuel products or by any buyer of densified fuel, or engaged in any other undertaking which might conflict with their independent position as inspectors.

4.3.2 It shall maintain the practice of having all inspections done only by properly supervised and qualified inspectors all of whom shall be under the direct control of the agency. Each inspector shall be thoroughly competent in the inspection of densified fuel he/she inspects. Inspectors shall be directed by a chief inspector,

supervisor or manager who is thoroughly experienced in the inspection of densified fuel products and who shall be held responsible for the proper functioning of the members of the inspection staff.

4.3.3 It shall maintain a bona fide densified fuel manufacturer audit service for the purpose of assuring the uniform application of the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard, other applicable documents and agency quality control and inspection procedures.

4.3.3.1 The agency shall perform sampling and testing of a manufacturer's qualified production at a minimum rate of 1 sample per every 1,000 tons of densified fuel produced. If less than 1,000 tons of densified fuel have been produced since the last inspection then a minimum of 1 sample shall be collected and tested, if available. If three consecutive months of unannounced audits demonstrate the production facility to be within full compliance of the PFI Standards Program, including all program documents, and incorporate the use of an in-house laboratory as outlined in Section 6.11 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook*, then the sampling frequency will drop to consist of one sample per audit as a minimum and one additional sample for every 5,000 tons of production. If after reducing the sample frequency non-conformances are identified through the monthly audit and/or through audit samples then the audit and testing frequency will return to one sample per 1,000 tons of production until the producer again demonstrates compliance over three consecutive monthly unannounced audits without deficiencies.

4.3.3.2 The agency's samples shall be representative of a manufacturer's production for the period elapsed between inspections.

4.3.3.3 The agency's samples are to be tested in accordance with Section 6.10 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook*, which also includes specific procedures for evaluating heavy metals.

4.3.3.4 Written reports of each inspection shall be made to the manufacturer and copies shall be kept available by the agency for examination by the Board of Review or its representative upon request. The agency shall also have available conforming reports from an ALSC accredited laboratory for the densified fuel sampled during the agency inspection. These records shall be kept for a minimum of two years.

4.3.3.5 It is the obligation of the agency to audit the densified fuel manufacturer on a regular basis, and the obligation of the manufacturer to produce a properly labeled densified fuel product. Samples of previously manufactured densified fuel product shall be inspected as part of the agency supervision. At the minimum rate as prescribed in 4.3.3, the agency shall sample a sufficient amount of production representative of the densified fuel grade levels produced by the manufacturer to adequately evaluate the proficiency of the densified fuel manufacturer.

4.3.3.6 When a sample of densified fuel indicates the product is not properly labeled the production representing that non-conforming sample shall be held for correction. The agency shall verify that the production has been corrected by either removal of the quality mark or by relabeling with a quality mark of the next lower fuel grade provided the production meets all the requirements of the lower fuel grade. The agency shall take whatever steps necessary to prevent recurrence.

4.3.3.7 Each month the agency headquarters personnel shall review the performance of each manufacturer and take whatever action is warranted. In addition, the review shall include the assessment of the agency sample results for each inspection. If the inspection results fail to meet the specified criteria, the agency shall increase inspections until such time as the inspection results are in compliance with the requirements at which time the frequency of inspections may return to normal.

4.3.4 It shall conduct all audit and inspection activities in a manner which complies with all requirements of these Enforcement Regulations

and its quality control and inspection procedures as approved by the Board of Review.

4.3.5 It shall adhere to the policy of uniformly requiring its inspectors to determine conformance to all applicable specifications before issuing a certificate thereon or marking the densified fuel product with the quality mark.

4.3.6 It shall uphold the standards of the industry through proper inspection procedures and shall maintain sufficient checks of its inspection staff to assure not only the continuing honesty and competency of its members, but consistency on their part in the proper application of densified fuel products specifications.

4.3.7 Regardless of production each manufacturer of densified fuel shall be inspected a minimum of twelve times per year at approximately monthly intervals, except in those cases where a manufacturer is inactive in excess of 2 months in any 12 month period in which case an inspection is required for each month the plant actually produces densified fuel.

4.3.8 All accredited agencies shall provide at all times an adequate, competent and reliable inspection service according to the requirements of these Enforcement Regulations.

4.3.9 All quality control and inspection procedures submitted for approval shall conform to the minimum requirements of the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard, other applicable documents and to the requirements of these Enforcement Regulations. If deficiencies are found in the review of an agency's quality control and inspection procedures, the deficiencies shall be brought to the attention of the agency. The agency shall have the option of amending the procedures to conform or requesting a hearing before the Board of Review.

4.3.10 An agency shall agree to have its quality control and inspection procedures carry a specific reference to the approval by the Board of Review and that these procedures conform to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents.

4.3.11 Agencies shall agree to permit republi-

cation of their quality control and inspection procedures in whole or in part without charge with all quoted parts clearly so indicated. The republication shall carry a reference to the source of the procedures and their effective date, and when they are revised to conform with any subsequent changes in the quality control and inspection procedures they shall show the effective date.

4.3.12 When quality control and inspection procedures have been approved by the Board of Review, subsequent revisions shall be proposed by the promulgating agency to the Board of Review for approval.

4.3.13 Security and Contracts. The Board of Review shall require as a condition to its accreditation of any agency the payment when due of all charges and fees assessed by the ALSC to cover the cost of carrying out its functions and the reimbursement to the ALSC for all costs and expenses incurred by the ALSC or its Board of Review in any investigation of the activities or practices of the agency, whether or not the investigation is initiated by the ALSC or its Board of Review or upon complaint. The Board of Review shall require that each accredited agency execute a contract with the ALSC in such form and containing such provisions as the ALSC may from time to time decide, and that each such agency observe and act in a manner consistent with the provisions of the contract.

4.3.14 The Board of Review shall require each accredited agency to prepare and submit to it for approval, a form of contract which each agency shall require the subscribing densified fuel manufacturer to execute. Accredited agencies shall maintain copies of contracts executed with each densified fuel manufacturer receiving their services for a period of not less than two years after termination of such contracts.

4.3.15 Agency Policy Changes. If at any time there should be any change in any policies of an agency relative to matters that are required under these Enforcement Regulations, the agency shall immediately notify the Board of Review in writing.

4.4 Agency Accreditation for Manufacturer Supervisory Service and/or Inspection Service

4.4.1 The Board of Review shall require an applicant to submit complete information as to its form or organization, the length of time it has functioned, the experience of its management as well as the individual inspection personnel and the supervision of its inspection staff. The applicant shall also submit, as applicable to the service(s) offered, complete information about the manufacturers under its supervision, the production volume of the manufacturers, programs for which supervision will be offered, programs for which lot inspection services will be offered, procedures for handling requests for inspection, adequate provisions for supervision of manufacturers quality control, supervision of manufacturers performance, authority to apply the agency's quality mark and evidence that all applicable requirements of the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents are being met by the agency and its manufacturers.

4.4.2 Before accrediting the inspection service(s) of any agency, the Board of Review shall require evidence that it conforms to all the requirements of Section 4.2 and Section 4.3 of these Enforcement Regulations in the conduct of its manufacturer supervision and/or inspection services and that the agency conforms to its own approved quality control and inspection procedures, these Enforcement Regulations and all applicable requirements of the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents.

4.5 Application of the Quality Mark and Certificates of Inspection

4.5.1 The application of the quality mark shall be accomplished by one of two methods: by manufacturer employees under the supervision of an accredited agency or by employees of the accredited agency, as specified herein. Application of the quality mark of agencies approved to conduct supervisory services will be conducted under the requirements of these Enforcement Regulations, the agency's quality control and inspection procedures and approved procedures for the withdrawal of services for unsatisfactory performance. When an employee of any agency is regularly stationed at a point of production, that person will be checked at the same intervals in the same manner as a manufacturer employee would be checked by a supervisory agency.

4.5.2 Inspections and certificate of inspection shall be permitted at any point where there is good and sufficient reason for them and shall be performed only by qualified agency employees or qualified agents of an accredited agency.

4.5.3 Densified fuel accepted by qualified agency employees or qualified agents of an accredited agency on a certificate inspection shall be identified by the qualified agency employees' or qualified agents' mark or other identifying mark and the identifying mark shall be shown on the certificate.

4.6 Marking

4.6.1 An accredited agency is permitted to license the use and application of its quality mark to complying densified fuel products by any manufacturer which subscribes through the agency to this program.

4.6.2 Continued use of the quality mark is subject to continued conformance to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents by sampling and testing in accordance with these Enforcement Regulations.

4.6.3 Application of the quality mark to products covered by the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard by a manufacturer licensed by an accredited agency constitutes verification that the product has been produced under the agency quality control program.

4.6.4 A quality mark shall not be applied to any densified fuel product where the product is misrepresented by a deceptive grade mark, label, brand or certificate.

4.6.5 Except as provided below when the quality mark of an accredited agency is used each densified fuel bag shall be marked and densified fuel products bearing a quality mark shall not be mixed with non-marked products.

4.6.5.1 In the case of bulk shipments the quality mark shall be provided with commercial documents.

4.6.6 The following minimum information is

required to be on a quality mark whether stamped, labeled or branded:

- Registration number
- Densified fuel grade
- Grade Requirements as outlined in Section 8 of *PFI Residential/Commercial Densified Fuel QA/QC Handbook*
- Manufacturer's Guaranteed Analysis
- The identifying symbol or logo of the accredited agency and the Pellet Fuels Institute Standards Program

4.6.7 Quality marks of accredited agencies shall be uniform in providing the required information and shall be legible when placed on a densified fuel product.

4.6.8 A representative facsimile of an agency's quality mark shall be on file with the Board of Review.

4.6.9 It is the policy of the Committee that densified fuel manufacturer quality marks, grade marks, grade stamps, labels, brands, certificates or other product description shall not be confusingly or deceptively similar to the quality marks of any ALSC accredited agency, including, but not limited to, reference to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard or other applicable documents directly or indirectly.

4.6.10 It is the policy of the Committee that densified fuel manufacturer quality marks, grade marks, grade stamps, labels, brands, certificates or other product description shall not misrepresent densified fuel products, including, but not limited to, reference to the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard or other applicable documents directly or indirectly.

4.6.11 Each accredited agency shall be responsible for the control of its quality marks. Quality marks shall only be used at manufacturers or by personnel authorized by accredited agencies. Accredited agencies shall require a participating manufacturer to provide care and security of the agency quality marks. An accredited agency shall retain on file a facsimile of each quality mark issued, require worn out or discarded quality marks to be destroyed, and require missing or stolen quality marks be reported to the

agency. The agency shall report missing, stolen, or misuse of its quality marks to the Board as soon as the agency is aware of such.

4.6.11.1 Except by prior written arrangement with the agency, the quality marks issued by an agency to a specific manufacturer location are to be used only at that location.

4.6.12 To obliterate means to render the approved quality mark unreadable or clearly inapplicable. Examples of obliteration of the approved mark or stamp include, but are not limited to removal by over-stamping with opaque indelible ink or paint applied in a solid block, multiple 'x' stamp or other means of over-marking. Marking through the approved quality mark with a semi-transparent ink, paint, or crayon which allows full, though possible reduced visibility of the approved quality mark does not constitute obliteration.

4.7 Warnings, Suspensions and Withdrawals

4.7.1 Accredited agencies shall withdraw quality marks from any manufacturer utilizing their services when an inspection or a series of inspections reveal serious non-conformances. An agency will immediately notify the Manager of the Board of Review by letter when it warns, suspends or withdraws the quality marking services at any manufacturer for cause, supplying all pertinent details. Upon receipt of such notice, the Manager of the Board of Review shall immediately notify by letter all other accredited agencies extending services in the area. No other agency shall extend supervisory service or any other quality marking services to the manufacturer for a period of 180 days in the case of a suspension or withdrawal notice, or 60 days in the case of a warning notice, after the date of the letter of the agency's notification, unless the manufacturer has been reinstated by the agency which warned, suspended or withdrew its service, when the services of the other agency result in evading the warning, suspension or withdrawal. The agency may reinstate quality marking supervisory services only after the manufacturer involved demonstrates the ability and willingness to maintain the applicable requirements of the agency's quality control and inspection procedures, these Enforcement Regulations and the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard and other applicable documents.

The agency shall file a complete report with the Board of Review outlining all corrective steps taken.

4.8 Reinspection

4.8.1 Reinspection by agencies accredited by the Board of Review shall be available to both buyer and seller upon request for the purpose of determining compliance with purchase specifications and effecting settlement of complaints and invoices.

4.8.2 Reinspection shall be performed in accordance with the reinspection provisions as outlined in Section 6.12 of the *PFI Residential/Commercial Densified Fuel QA/QC Handbook*.

4.8.3 The expense of reinspection shall be borne in accordance with the provisions of the quality control and inspection procedures of the applicable agency, but the person calling for the reinspection shall be responsible to the agency for the costs thereof.

4.9 Agency Reports

The Board of Review shall require reports to be rendered at such times it determines necessary. The reports shall include, among other things, information as follows:

4.9.1 The number of lot inspections performed during a particular period and the volume of densified fuel involved.

4.9.2 Reinspection of densified fuel products originally graded by the agency or marked with an agency's quality mark during a particular period with details on each, including the name of the original inspector and the date of the original inspection if certification is involved, the point of origin, name and location of the consignee, date of reinspection, item(s) and quantities involved and results of the reinspection.

4.9.3 A summary report on the agency's own manufacturer inspections and analytical results during a given time which generally shall coincide with the random sample survey conducted by the Board of Review.

4.10 Record Retention

4.10.1 As a condition for accreditation, an agency shall maintain for a period of at least 2 years records of all inspections made. These records shall be available for examination by a representative of the Board of Review at any time during normal working hours. Any employee of any agency whose principal job is inspecting any manufacturer's product shall be supervised by the agency and reports of the supervision kept in the agency's files for a period of two years.

4.11 Field Examination

4.11.1 Each agency shall agree to permit the staff representatives of the Board of Review to examine any densified fuel product certified and/or quality marked by the agency or under the agency's supervisory service at the manufacturer or destination points, for the purpose of checking the performance of the agency, its inspectors and the general reliability of its service.

4.11.2 Board of Review staff personnel shall have the right to examine unmarked material at plants and at destination points.

4.11.3 The agency shall agree that if any densified fuel product which it has certified or quality marked or is produced under its supervisory service whether quality marked or not, is found to be deficient, the agency shall cooperate fully in taking such steps as shall be necessary to eliminate the risk of recurrence of such deficiencies by the same inspector or plant. Each agency shall also agree that serious deficiencies, when found, shall require complete reinspection of the shipment or lot.

4.12 Random Sample Survey

4.12.1 The staff representatives of the Board of Review shall conduct on a random sampling basis, check inspections on densified fuel produced by each accredited agency's manufacturers. The manufacturers included in each survey shall be selected at random and shall be of sufficient number to be deemed representative of the total quantity of densified fuel produced under an accredited agency's authority. The results of the random sample survey shall be used by the Board of Review as one measure of determining the continuing competency and reliability of an accredited agency.

4.13 Agency Follow-up

4.13.1 Unsatisfactory Reports

On each occasion when a field report by a Board of Review inspector reveals a serious infraction, the Board of Review or its staff shall promptly notify the agency of the infraction, send the agency a copy of the inspector's report, and request the agency to take corrective action with the manufacturer or agency employee involved to prevent a recurrence of the infraction. The agency shall reply stating in detail the corrective actions taken, and shall continue to make such reports until such time as it is satisfied that a recurrence of the infraction is unlikely and it notifies the Board of Review that it is satisfied. Appropriate documentation shall accompany all reports.

The Board of Review shall periodically evaluate the effectiveness of an agency's follow-up. The Board of Review shall to the extent possible confirm that the agency did in fact take all action as reported to the Board of Review.

The Board of Review shall maintain records of the agency's follow-up performance. These records shall be used by the Board of Review as one measure of the continuing competence and reliability of an agency.

4.13.2 Board of Review Requested Reinspection

(a) Destination: Upon finding that a given shipment of densified fuel that is quality marked and/or certified appears to contain serious infractions, the Board of Review inspector without divulging detailed information to the customer shall request the material be held for reinspection. The inspector shall immediately notify his office with full details of the infraction. The office of the Board of Review shall immediately notify the agency whose quality mark appears on the material and the agency in turn shall immediately advise the customer holding the material that a prompt reinspection is to be made by the agency at no cost to the customer provided the customer agrees to hold the stock and furnish labor if necessary (for which he shall be reimbursed by the agency) and further agrees to assess no holding charges for the densified fuel held for reinspection.

The agency shall furnish results of the reinspection to all parties of the transaction. Costs of such reinspection shall be funded by the ALSC except when the densified fuel is found to be non-conforming according to the reinspection provisions shown in Section 4.8 of these Enforcement Regulations, the shipping manufacturer shall be responsible to the agency for the cost of the reinspection.

(b) Origin: Upon finding quality marked and/or certified material at the point of origin which contains serious infractions, the Board of Review inspector shall request the manufacturer to hold the material for review by the agency and notify his office immediately of the infraction giving full details. The office of the Board of Review shall immediately notify the agency whose quality mark appears on the material. The agency shall immediately notify the manufacturer management and confirm that the material is to be held for review by the agency. The agency shall review the material being held and determine the appropriate action and shall promptly report the actions taken to the Board of Review. Any manufacturer failing to hold such material shall be subject to having the use of its quality marking devices suspended immediately.

4.13.3 If the agency disagrees with the ALSC field representative's finding as to the labeling of the densified fuel product, the agency shall notify the ALSC office and give the ALSC an opportunity to review the densified fuel product with an agency representative if necessary. If this procedure is not followed, the ALSC report stands.

4.14 Board of Review Destination Inspections

4.14.1 The results of destination inspections may be used by the Board of Review as one means of determining the agency's performance.

4.15 Board of Review Enforcement Actions

4.15.1 Probation, Suspension or Revocation of Agency Accreditation: The Board of Review shall judge the continued competency, reliability, adequacy and integrity of accredited agencies under these Enforcement Regulations. The Board of Review, after reviewing the competency, adequacy

cy, integrity and performance of an agency, shall take any of the following actions as in the judgment of the Board of Review is necessary to maintain the integrity of this program.

- (a) Take no action.
- (b) Place an agency on probation.
- (c) Suspend the approval of an agency.
- (d) Revoke the approval of an agency.

In arriving at its decision to take any of the above actions, the Board of Review shall consider any information at its disposal, including, but not necessarily limited to, the information contained in agency reports to the Board, results of the random sample survey inspection, destination inspections and follow-up performance of an agency in specific instances. Actions of probation, suspension or revocation by the Board of Review shall be made public.

4.15.2 Board of Review Procedures: Before any agency is placed on probation or its accreditation is suspended or revoked by the Board of Review, the Board shall notify the agency that enforcement actions against the agency may be taken by the Board and the agency shall be afforded opportunity to appear before the Board in person and by counsel in connection with such pending action by the Board. A Board of Review action placing an agency on probation, suspending or revoking the accreditation of an agency shall be taken on the basis of evidence introduced on the record in a hearing held by the Board with opportunity on the part of the agency concerned to examine the evidence of record and to cross examine witnesses testifying before the Board and the opportunity on the part of the agency concerned to submit its own evidence in the hearing.

4.16 Lapse of Accreditation

4.16.1 If an accredited agency shall not have inspected any densified fuel product for a period of two years, the accreditation of that agency shall thereupon lapse and terminate, unless the agency shall establish grounds for continuance of its accreditation. Lapse and termination of accreditation shall not prejudice later application for accreditation.

5. FUNCTIONS OF THE BOARD OF REVIEW

5.1 Inspection Visits

Inspections shall be performed by the field staff of the Board of Review for the purpose of monitoring agency performance. Four types shall be made. They are as follows:

- (a) Random Sample Survey Inspections
- (b) General Inspections
- (c) Destination Inspections
- (d) Recall Inspections

The purpose for each type of inspection is:

5.1.1 Random Sample Survey: Inspections shall be made at a specific number of an agency's manufacturers chosen at random. The number of manufacturers chosen for inspection from each agency shall be determined by the number of manufacturers an agency supervises. Samples from randomly selected commodities shall be obtained at each manufacturer and the number of samples taken at any manufacturer included in a survey shall be dependent on the manufacturer's annual production.

5.1.2 General Inspections: Inspections shall be made at manufacturers on a general basis. Samples taken at these inspections shall be from any material present at the manufacturer at the time of inspection.

5.1.3 Destination Inspections: Destination inspections shall be made in chosen market areas.

5.1.4 Recall Inspections: Where serious deficiencies are found at a manufacturer during a random sample survey inspection, at a destination inspection, or a general inspection, recall inspections shall be made to determine that the deficiencies have been corrected.

5.2 Testing

5.2.1 Each inspection shall ensure that densified fuel production facilities are manufacturing fuel in accordance with *PFI Residential/Commercial Densified Fuel QA/QC Handbook*.

5.2.2 When material bearing an agency's quality mark is found to be non-conforming during any Board of Review inspection, the agency

shall be notified immediately. It shall be the obligation of the agency to take immediate corrective actions and report such actions to the Board of Review.

5.3 Record Review

The records of each accredited agency shall be checked at least annually by staff personnel of the Board of Review.

The following groups of records shall be among those checked:

5.3.1 Records pertaining to agency supervision of its own inspection staff, including records of initial inspector training and continuing inspector training, records of the correction of deficiencies in individual inspectors, records showing specific qualifications of individual inspectors and records showing assignments of individual inspectors.

5.3.2 Records pertaining to manufacturer inspections including results of samples taken during manufacturer inspections. Records of procedures for application of the quality mark. Records of frequency of manufacturer inspections.

5.3.3 Records pertaining to the correction of deficiencies, found by agency inspection at manufacturers and destination sites and their satisfactory correction and records of reinspection generated by customer complaint and the settlement of claims.

5.3.4 Records pertaining to enforcement, including records of manufacturer qualification, of warnings issued, suspensions, and revocations.

5.4 Findings

5.4.1 Records--The result of the Board of Review's staff review of the agency's records shall be reported to the Board of Review. The Board of Review shall use this information and all other information available to the Board in its evaluation of an agency's adequacy, competency and reliability.

5.5 Board of Review

5.5.1 The Board of Review shall judge the

performance, efficiency, reliability, and integrity of agencies based on reports of the Board of Review's staff using the procedures in Section 4 and all other information available to it.

5.6 Quality Control Laboratory Accreditation

5.6.1 The Board of Review shall accredit agency quality control laboratories or quality control laboratories under contract to an agency using procedures in Section 6.

6. LABORATORY ACCREDITATION

6.1 General Information

6.1.1 The purpose of this section is to set forth procedures for the Board of Review accreditation of laboratories that provide service to inspection agencies under this program.

6.1.2 Laboratory accreditation is a voluntary system for accrediting a laboratory's competence to perform specific tests. Competence is defined as the ability of a laboratory to meet the program conditions and to conform to the criteria.

6.1.3 The Board of Review or its representative shall have the right to visit the laboratory, unannounced, during the normal working hours for the purpose of inspecting the laboratory and its record.

6.2 Definitions--See Section 2.5

6.3 General Conditions for Accreditation

6.3.1 To become accredited and maintain accreditation, a laboratory shall agree in writing to:

- Be assessed and evaluated initially and on a periodic basis;
- Participate in proficiency testing as required.
- Be capable of performing the tests for which it is accredited according to the latest version of the *PFI Standard Specification for Residential/Commercial Densified Fuel* standard test methods and any other referenced methods, as applicable;
- Limit the representation of the scope of its

accreditation to only those tests for which accreditation is granted;

- Maintain records of all analysis for a minimum of two (2) years;
- Render all test reports objectively and without bias;
- Report to the Board of Review thirty (30) days prior to any major changes involving the location, ownership, management structure, or facilities of the laboratory; and
- Return to the Board of Review the document of accreditation for possible revision or other action, should it become unable for any reason to conform to any of these conditions.

6.4 Specific Criteria for Accreditation

6.4.1 The laboratory shall operate under an internal procedure appropriate to the volume of work performed.

6.4.2 The laboratory procedures shall be documented in a quality manual or equivalent (e.g., operations notebook), which is available for use by laboratory staff. A person(s) shall be identified as having the responsibility for maintaining the quality manual.

6.4.3 The quality manual shall include, as appropriate:

- Laboratory procedures for each approved test method.
- Sample control procedures including a system for sample identification.
- Instrument calibration records.
- Specific procedures for each accredited test including use of reference standards and control charts, interlaboratory testing procedures, and procedures for retesting where necessary.
- Procedures for corrective actions for suspected test discrepancies.
- Quality management responsibilities for each procedure in the laboratory.
- Detailed training procedures for new or re-assigned employees.
- Procedures for dealing with disputed tests.

6.4.4 The laboratory shall periodically review its internal procedures by or on behalf of management to ensure its continued effectiveness. These reviews shall be recorded with details of any corrective action taken.

6.5 Staff

6.5.1 The laboratory shall be staffed by knowledgeable and competent analysts for each of the approved analyses.

6.5.2 The laboratory shall have a technical manager (or similar title) that has overall responsibility for the technical operations of the laboratory.

6.5.3 The laboratory shall have one or more signatories to sign test reports. Approved signatories shall be competent to make a critical evaluation of test results; and shall occupy positions within the laboratory's organization which make them responsible for the adequacy of test results.

6.6 Facilities and Equipment

6.6.1 The laboratory shall be furnished with all items of equipment and facilities for the correct performance of the tests and measurements for which accreditation is granted.

6.6.2 All equipment shall be properly maintained to ensure protection from corrosion and other causes of deterioration. Instructions for a proper maintenance procedure for those items of equipment which require periodic maintenance shall be available. Any item of equipment or component thereof which has been subjected to overloading or mishandling, gives suspect results, or has been shown by calibration or otherwise to be defective, shall be taken out of service and clearly labeled until it has been repaired. When placed back in service, this equipment shall be shown by test or calibration to be performing satisfactorily.

6.6.3 Records of each analytical instrument shall be maintained. Each record shall include:

- The name of the analytical instrument.
- The manufacturers' name and type, identification, and serial number.
- Date received and date placed in service.
- Current location, when appropriate.
- Details of maintenance.
- Date of last calibration, next calibration due date, and calibration report reference.

6.7 Calibration

6.7.1 All new test and measuring equipment shall be calibrated according to the manufacturer's recommendations before putting it into service.

6.7.2 Maintain records of all calibrations and recalibrations.

6.7.3 Document the source of all calibration and reference standards. When the use of standards is not applicable, the laboratory shall provide satisfactory evidence of the accuracy or reliability of test results (e.g., by participation in a suitable program of interlaboratory comparison).

6.8 Test Methods and Procedures

6.8.1 The laboratory shall perform all tests in accordance with approved *PFI Standard Specification for Residential/Commercial Densified Fuel* standard procedures.

6.8.2 The laboratory shall maintain a system of sample identification to ensure that there is no confusion regarding the identity of the samples and the results of the measurements made.

6.8.3 Laboratories shall retain 5 pounds of all inspection samples in numerical order, for 3 months. If the analytical procedure employed results in the destruction of the sample, the sample shall be divided prior to analysis to permit compliance with this section. The samples may be retained in appropriate form and shall be made available to the Board of Review upon request.

6.9 Records

6.9.1 The laboratory shall maintain a record system which contains sufficient information to permit verification of any issued report.

6.9.2 All laboratory records shall be signed and dated by the operator.

6.9.3 The laboratory shall retain all original observations, calculations, derived data and calibration records for two (2) years unless a longer period is specified.

6.9.4 These records shall be made available to the Board of Review on request.

6.10 Test Reports

6.10.1 The laboratory shall issue test reports of its work including all of the following information:

- Name and address of the laboratory;
- Name and address of the manufacturer;
- If destination sample, name and address of the destination;
- Identification of the test report by serial number or other appropriate means;
- The date the sample was received;
- Identification of standard and grade of densified fuel material being analyzed;
- Description of sample, such as diameter, length;
- Date code on the densified fuel sample;
- Description of material;
- Analytical results;
- Signature of an approved signatory; and
- Any remarks which are considered to be significant.

6.10.2 The laboratory shall issue corrections or additions to a test report by a document suitably marked which meets the relevant requirements of Section 6.10.1.

6.11 Application Process

6.11.1 Any laboratory is permitted to submit an application for laboratory accreditation to the Board of Review.

6.11.2 To become accredited, the laboratory shall complete an application for accreditation in one or more analytical procedures and include the following information:

- Legal name and full address of laboratory;
- Ownership of the laboratory;
- Organization chart that is relevant to performing testing covered in the accreditation request;
- General description of the laboratory, including its facilities and scope of operation;
- Name and telephone number of the authorized representative of the laboratory;
- A specific list of equipment relevant to the analysis for which accreditation is being sought;
- Names, titles and qualifications of laboratory

staff; and

- Other information as required.

6.11.3 Upon receipt of a laboratory's application, the Board of Review shall:

- Acknowledge receipt of application.
- Request further information, if necessary.
- Specify the next step(s) in the accreditation process.

6.11.4 Assessing and evaluating a laboratory:

Information used to evaluate a laboratory's compliance with the conditions for accreditation set out in Sections 6.3 - 6.10 and the technical requirements established for the review process shall include:

- A review and confirmation of information.
- On-site assessment of the laboratory.
- Laboratory responses to identified deficiencies, if any.
- Laboratory performance on proficiency tests.
- Any other procedure judged appropriate by the Board of Review.

6.11.5 In evaluating a laboratory for accreditation and ongoing evaluation of an accredited laboratory, the Board of Review may utilize consultants, third parties or other entities, such expense to be borne by the applicant agency.

6.12 Granting Accreditation

6.12.1 The Board of Review, after its evaluation of a laboratory, shall grant or propose to deny accreditation of an applicant agency no later than ninety (90) days following the conclusion of the evaluation. If action is not taken within this time limit, the Board of Review shall notify the agency stating the reasons for the delay.

6.12.2 If accreditation is granted, the Board of Review shall:

- Provide a document of accreditation to the agency; and
- Identify the scope and terms of the laboratory's accreditation.

6.13 Denying or Revoking Accreditation

6.13.1 If the Board of Review proposes to deny or revoke accreditation of an agency or laboratory, it shall inform the agency or laboratory of the reasons for the proposed denial or revocation and the procedure for appealing such a decision.

6.13.2 Upon receipt of a proposed denial or revocation, the agency shall have the option to request a hearing by the Board of Review. If a hearing is requested the Board shall have the option to stay the denial or revocation pending the outcome of the hearing.

6.13.3 The proposed denial or revocation shall become final through the issuance of a written decision to the agency in the event that the laboratory does not correct the deficiency or the agency appeal the proposed denial or revocation.

6.13.4 An agency whose laboratory accreditation has been denied, revoked or terminated, or which has withdrawn its application before being accredited, may reapply and be accredited if the agency and the laboratory complete the assessment and evaluation process and meet the conditions and criteria for accreditation as set forth in Sections 6.3 - 6.10.

7.0 INTERPRETATIONS

7.1 Staff Interpretations.

The purpose of interpretations is to promote consistency in the application and understanding of the provisions of this document. Interpretations are occasionally needed to add further clarification to the requirements of these regulations. An interpretation of the American Lumber Standard Committee, Incorporated® (ALSC) Board of Review Enforcement Regulations may be obtained through the submission of a written request to the President.

(a) The written request shall identify the specific section of the Enforcement Regulations involved and shall set forth the facts and arguments supporting the request.

(b) The interpretation shall be made by the President or his designated staff person in writing.

(c) The interpretation of the President shall be distributed to all participants in the ALSC Program.

(d) In the absence of any request pursuant to

Subsection 7.2, below, the interpretation shall be made part of the background documentation to the Enforcement Regulations upon endorsement by the Enforcement Subcommittee and ratification by the ALSC.

fuel program shall be adopted as needed by the American Lumber Standard Committee.

7.2 Enforcement Subcommittee Review.

Within 30 days of the distribution of the interpretation, the requestor or any participant may submit a written request for review by the Enforcement Subcommittee, including the grounds of disagreement with the interpretation. At the discretion of the chair, the Subcommittee will consider the request at a meeting or telephone conference at which the requestor may make additional presentations. The Subcommittee may accept, reject, or make changes in the interpretation.

7.3 Appeals to the ALSC.

(a) The requestor or any participant in the program who has filed a request pursuant to Subsection 7.2, and who finds the ruling of the Enforcement Subcommittee unacceptable, may appeal the ruling to the ALSC. Such request for appeal must be submitted in writing no later than 30 days after the date of the Enforcement Subcommittee's minutes being published and must specify the grounds for the appeal. The appeal shall be considered at the next meeting of the ALSC or, in the discretion of the Chairman, in a special telephone conference. All interested parties will be allowed the opportunity to make further presentations at the meeting or call.

(b) If a majority of the ALSC does not approve the recommendation of the Enforcement Subcommittee, the matter shall be either (i) referred back to the Enforcement Subcommittee for further consideration, or (ii) revised by the ALSC.

7.4 Interpretation Records

A complete record of all interpretations and committee actions on interpretations shall be maintained at the offices of the ALSC and shall be fully available upon written request to the ALSC President.

8.0 **ADDITIONAL PROCEDURES**

8.1 Additional procedures for this densified