



National Fenestration Rating Council Incorporated

NFRC 701-2009_[E0A01]

Laboratory Accreditation Program Document

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FOREWORD

The National Fenestration Rating Council Incorporated ("NFRC") has developed and operates a uniform national rating system for energy performance of fenestration products, including windows, doors, skylights and similar products. The linchpin of the Rating System is a procedure for determining the thermal transmittance ("U-factor") of a product. The U-factor rating procedure is supplemented by procedures for rating products for solar heat gain coefficient ("Solar Heat Gain" or "SHGC"), Visible Transmittance ("Visible Transmittance" or "VT"), Condensation Resistance and Air Leakage ("AL"). Together, these rating procedures, as set forth in documents published by NFRC, are known as the NFRC Rating System. The Rating System is expected to be supplemented by additional procedures for rating energy performance characteristics, including long term energy performance, and comfort.

The Rating System employs computer simulation and physical testing by NFRC-accredited laboratories to establish energy performance ratings for fenestration products and product lines. The Rating System is reinforced by a certification program under which fenestration manufacturers may label and certify fenestration products to indicate those energy performance ratings and only if the ratings are authorized for certification by an NFRC-licensed certification and inspection agency ("IA"). The requirements of the rating, certification and labeling program (the "Certification Program") are set forth in the NFRC PCP Product Certification Program (most recent version), as amended, updated or interpreted from time to time (the "PCP"). Through the Certification Program and its companion laboratory accreditation program (the "Accreditation Program"), set forth in this NFRC LAP Laboratory Accreditation Program, as amended, updated or interpreted from time to time (the "LAP"), and IA licensing program (the "IA Program"), set forth in NFRC CAP Certification Agency Program (most recent version), as amended, updated or interpreted from time to time (the "CAP"), NFRC intends to ensure the integrity and uniformity of NFRC ratings, certification and labeling by ensuring that testing and simulation laboratories and IAs adhere to strict NFRC requirements.

A primary requirement of the Product Certification Program is the issuance of a Certification Authorization Report (CAR). NFRC publishes the NFRC Certified Products Directory, listing product lines and individual products selected by the manufacturer for which product certification authorization has been granted by NFRC-licensed IAs based upon reports submitted by NFRC-accredited testing and simulation laboratories.

NFRC manages the Rating System and supporting Certification, Accreditation and IA Programs in accordance with the PCP, the LAP and the CAP, and conducts compliance

activities under all the programs and the NFRC Compliance and Monitoring Program. NFRC also continues the development of the Rating System and each of the programs.

NFRC owns all rights in and to each of the PCP, LAP, CAP, Compliance and Monitoring Program, and each procedure which is a component of the Rating System, as well as each of its certification marks, trade names, and other intellectual property.

The structure of the NFRC program and relationships among participants are shown in Figure 1 and Figure 2. For additional information on the roles of the IAs and laboratories and operation of the IA Program and Accreditation Program, see the CAP and PCP, respectively.

Figure 1

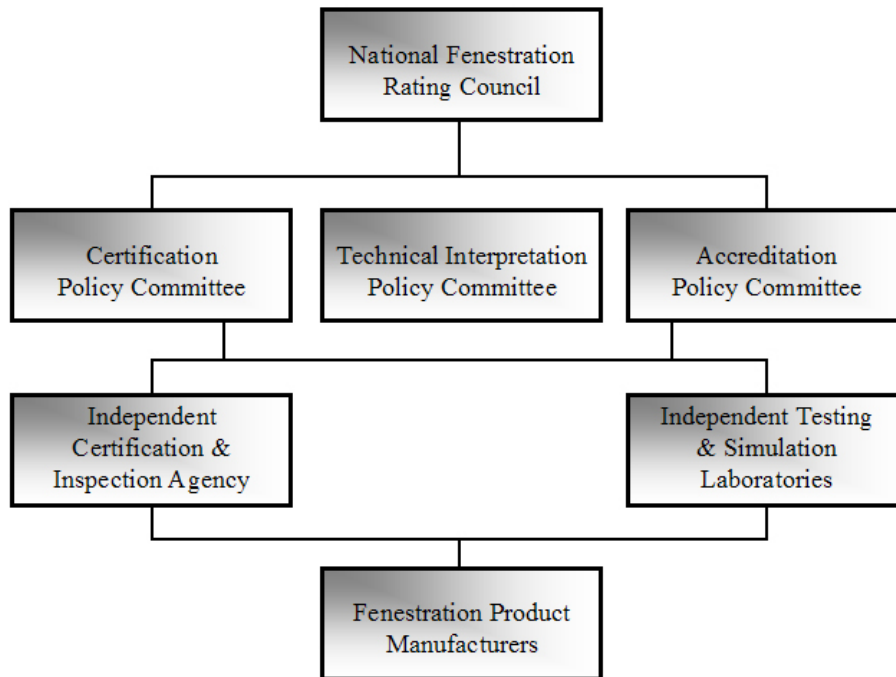
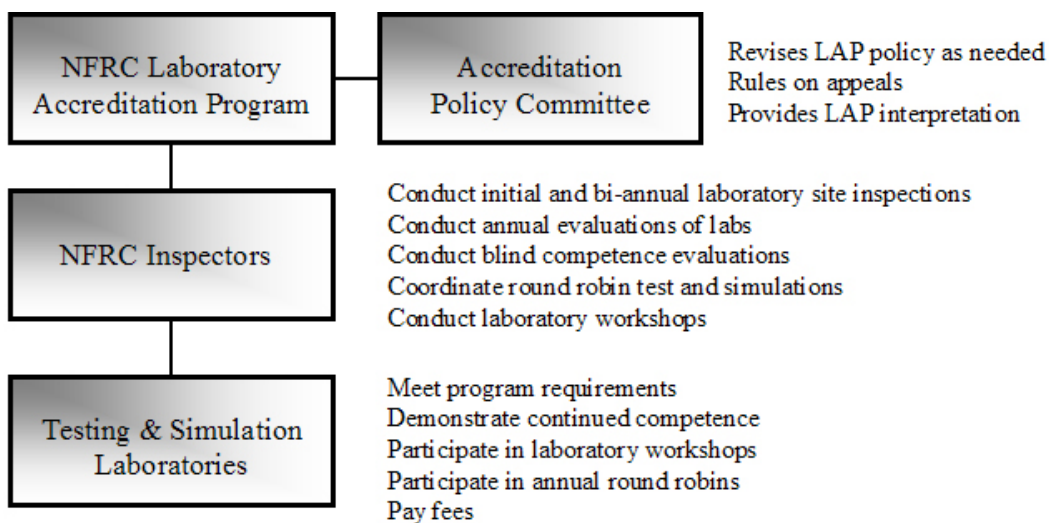


Figure 2



Questions on the use of this procedure should be addressed to:

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DISCLAIMER

NFRC certification is the authorized act of a fenestration manufacturer in labeling a fenestration product with an NFRC Label that bears one or more energy performance ratings reported by NFRC-accredited simulation and testing laboratories and authorized for certification by an NFRC-licensed IA. Each of these participants acts independently to report, authorize for certification and certify a rating.

NFRC does not certify a product and certification does not constitute a warranty of NFRC regarding any characteristic of a fenestration product. Certification is not an endorsement of or recommendation for any fenestration product or product line or any attribute of a product or product line. NFRC is not a merchant in the business of selling fenestration products and therefore cannot warrant products as to their merchantability or fitness for a particular use.

NFRC THEREFORE DISCLAIMS ANY AND ALL LIABILITY THAT MAY ARISE FROM OR IN CONNECTION WITH SERVICES PROVIDED BY, DECISIONS MADE BY OR REPORTS OR CERTIFICATIONS ISSUED OR GRANTED BY ANY NFRC-ACCREDITED LABORATORY, NFRC-LICENSED IA OR ANY PRODUCT MANUFACTURER; RELIANCE ON ANY NFRC PRODUCT DESCRIPTION, SPECIFICATION, RATING, TEST OR CERTIFICATION, WHETHER APPEARING IN A REPORT, A PRODUCT CERTIFICATION AUTHORIZATION OR A PRINTED OR ELECTRONIC DIRECTORY, OR ON A LABEL; OR THE SALE OR USE OF ANY NFRC-RATED OR -CERTIFIED FENESTRATION PRODUCT OR PRODUCT LINE; INCLUDING BUT NOT LIMITED TO DAMAGES FOR PERSONAL OR OTHER INJURY, LOST PROFITS, LOST SAVINGS OR OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES.

NFRC program participants are required to indemnify NFRC from and against such liability.



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1. SCOPE OF THE LABORATORY ACCREDITATION PROGRAM (LAP)

1.1 Scope of the LAP

The LAP sets forth requirements applicable to a testing or simulation laboratory that wishes to participate in the NFRC Certification Program, including guidelines to become accredited under the Accreditation Program and to conduct day-to-day operations under the program.

1.2 Responsibility of NFRC

The NFRC has established and will sponsor and operate the Laboratory Accreditation Program (LAP). Under the Laboratory Accreditation Program the NFRC:

- A. The Accreditation Policy Committee (APC) is responsible for oversight of the LAP.
- B. The Senior Programs Manager, LAP Manager, and LAP Associate are the NFRC Staff liaison for the LAP.

1.3 Responsibility of NFRC-Accredited Laboratory

- A. NFRC-accredited laboratories provide computer simulation and/or physical testing services for one or more of the following tests; U-Factor, solar heat gain coefficient, visible transmission, condensation resistance air leakage and determining thermo-physical and spectral optical properties of materials, to fenestration manufacturers that participate in, or are applying to participate in, the NFRC Certification Program. Accredited simulation laboratories use NFRC-approved computer software to conduct computer simulation modeling services for U-Factor, solar heat gain coefficient, visible transmission, and condensation resistance to fenestration product and component manufacturers that participate in, or are applying to participate in, one of the Certification Program. Accredited test laboratories conduct physical tests of components, material and base line products representative of the Product Line in accordance with NFRC-approved test procedures, in order to validate computer-simulated ratings, provide U-Factor, solar heat gain coefficients, condensation resistance, and air-leakage ratings.
- B. All accredited testing laboratories are expected to maintain a high degree of technical and professional rigor and to exercise the highest level of professional ethics.

- C. The lab shall participate in the investigation of potential violations (prohibited activities) as set forth in the NFRC Compliance and Monitoring Program.

2. GLOSSARY OF TERMS

Refer to NFRC 600.

3. GENERAL REQUIREMENTS

3.1 Independence Requirements

3.1.1 Laboratory Independence Requirements

- A. Independence Criteria and Procedures

In order for a testing or simulation laboratory to become or remain accredited by NFRC, the laboratory shall meet the following laboratory independence requirements, so that NFRC services are rendered objectively and without bias:

- B. No accredited laboratory, its equity owners, officers, directors, managers or employees, or any affiliate of such person, may:
 - i. Have any financial interest in, or family or organizational affiliation to, any fenestration product or component manufacturer, supplier or vendor
 - ii. Have any financial interest in, or family or organizational affiliation to any firm for which any one of them provides NFRC-licensed certification services
 - iii. Advocate or recommend the use of any product (or product component) for which the accredited laboratory provides NFRC testing or simulation services
 - iv. Advocate or recommend the use of a particular thermal performance certification agency providing NFRC-licensed services
 - v. Be involved in the commercial design or fabrication of fenestration products or components.
- C. No accredited laboratory, its equity owners, directors, officers or managers, or any affiliate of any such person, shall accept

any payment or consideration of any kind, from any person, in exchange for the laboratory's reporting a rating or test or simulation result that appears to meet or comply with the requirements of NFRC Test Procedures when the test or simulation was not in fact conducted and reported in compliance with those requirements.

- D. Each accredited laboratory, its equity owners, directors, officers, managers and employees shall keep confidential all product information, test data and other proprietary information developed for or acquired from the laboratory's clients participating in the NFRC Certification Program, to the extent required by such clients, except as may be expressly required by NFRC in connection with the Certification Program or Accreditation Program.

3.1.2 Independence Procedures

In order for a testing or simulation laboratory to become or remain accredited by NFRC, the laboratory shall comply with the following independence procedures:

- A. Each accredited laboratory shall maintain a statement signed, on behalf of the laboratory, by an authorized officer, or in the case of a partnership or sole proprietorship, an authorized representative, and by each person performing services on behalf of the laboratory in connection with the Accreditation Program, NFRC 100, NFRC 101, NFRC 102, NFRC 200, NFRC 201, NFRC 300, NFRC 400, NFRC 500 and other NFRC approved test or simulation procedure, that the laboratory and each such person is and shall be in compliance with the independence criteria contained in Section 3.1 at all times.
- B. Such persons shall include, but not be limited to: all management personnel at the laboratory, individual(s)-in-responsible-charge, person(s) performing NFRC-related simulation or testing duties [test engineers, technicians, and technician assistants], and any person performing sub-contracted work related to NFRC activities. Also, the determination as to which person(s) shall be included will be made by the APC.
- C. Each accredited laboratory shall notify NFRC not later than 10 calendar days after a change in any fact affecting the laboratory's compliance with the independence criteria of Section 3.1.1. Such a change could result from, among other things, termination or hiring of any employee or a change in

the equity ownership or management of the laboratory. Upon notification of such to NFRC, the APC shall be notified of this occurrence. The APC shall determine what action will, if any, be taken.

3.2 Technical Competence Requirement

3.2.1 Laboratory's In-Responsible Charge Personnel

- A. Each laboratory and each individual laboratory location shall demonstrate technical competence of its laboratory staff to conduct NFRC tests or simulations. Each laboratory and each laboratory location shall employ at least one, but preferably two, full-time staff members approved by NFRC as an "individual-in-responsible-charge," or "simulator-in-responsible-charge" who shall be responsible for all technical and administrative aspects of the laboratory's participation in the Accreditation Program. A laboratory shall notify NFRC not later than 10 calendar days of any change in personnel performing NFRC-accredited services listed on the application.
- B. Each individual-in-responsible-charge of an NFRC testing laboratory shall have a Bachelor's Degree or higher degree in engineering, quality control or a closely related physical science, or a minimum of four years experience in similar testing. If an applicant laboratory does not have a proposed or current individual-in-responsible-charge that meets these requirements, the APC, at their discretion, shall determine if their experience in the fenestration testing field or other factors may be substituted for the Bachelor's Degree requirement.
- C. Each simulator-in-responsible-charge of an NFRC simulation laboratory shall have a Bachelor's Degree or higher degree in computer science, engineering or a closely related physical science. If an applicant laboratory does not have a proposed or current simulator-in-responsible-charge that meets these requirements, the APC, at their discretion, shall determine if their experience in the fenestration testing field or other factors may be substituted for the Bachelor's Degree requirement. The simulator-in-responsible-charge shall be an NFRC certified simulator having successfully completed an NFRC Simulation Certification Workshop and have passed an NFRC Simulation Certification Examination. The simulator-in-responsible-charge shall be trained and meet the competency requirements in all NFRC Simulation Procedures and approved computer software tools, shall be required to attend the annual workshop, and shall participate in NFRC's annual simulation round robin.

4. NFRC SIMULATOR CERTIFICATION

4.1 Initial Certification

- A. Each individual shall attend the required NFRC Simulation Training Workshop and properly complete all tasks at the workshop.
- B. NFRC staff shall evaluate the simulation exams using the NFRC approved software tool(s) for computer simulations; and applicable documents in effect at the time the exam was mailed to the examinee.
- C. The NFRC staff shall submit the evaluation to the individual seeking the NFRC-Certified Simulator status within 60 calendar days from the date the prospective simulator obtained the simulation examination from NFRC. NFRC staff will notify APC if additional time is required for evaluation of examinations. All Exam corrections if necessary shall be submitted to NFRC staff within 30 days.
- D. At the discretion from the APC, additional exams may be given to those persons who have taken and failed the applicable simulation examination. The APC shall respond within 45 days of receipt of a written request.
- E. All exams shall be based on currently approved simulation tools, technical documents, and program requirements.

4.2 Partner Country NFRC Certified Trainer

NFRC Certified Trainer in a partner country is responsible to provide training to other simulators in the Partner Country only.

- A. NFRC Certified Trainer shall be a resident of the Partner Country.
- B. NFRC Certified Trainers shall adhere to Section 4.3 and Section 6.1.
- C. A Partner Country NFRC Certified Trainer cannot perform simulations for NFRC certification unless also NFRC certified.

4.3 Continued Certification

- A. In the event that a new version of either NFRC-approved computer software program(s) or another computer software program or procedures for simulation of energy performance or any change to NFRC technical documents is adopted by the NFRC Board of Directors for use in the LAP and the new version is deemed by NFRC to be substantially different from the previously approved software, all certified simulators shall participate in an NFRC training program for

the new version. The APC shall make a determination as to whether a laboratory is competent in employing the new version before the laboratory may issue any report utilizing the new version of the computer program or procedure, if the report is intended to be used in conjunction with the Certification Program. Such a determination by the APC shall be based on individual evaluations utilizing training program simulation examinations, ILCs, or other such means as deemed appropriate by the APC. The APC shall make the determination within forty-five (45) days from when the new version of the computer program or procedure has been approved by the NFRC Board of Directors.

- B. All Certified simulators shall participate in all NFRC-conducted ILCs per Section 6.3.

5. ACCREDITATION PROCEDURES

5.1 Introduction

To become or remain accredited, a laboratory shall meet the criteria set forth in the NFRC 701, the NFRC 701.08 for simulation laboratory accreditation and the NFRC 701.09 for test laboratory accreditations.

Any laboratory to which an NFRC-accredited laboratory subcontracts services, the results of which are utilized in issuing an NFRC test or simulation report, shall be an NFRC-accredited laboratory.

5.2 Description of Operation of the Accreditation Program

To become accredited, an applicant laboratory shall submit an initial application for accreditation (NFRC 701.01 or NFRC 701.02) to NFRC and pay the application fees (NFRC 705.01). The applicant laboratory shall complete the accreditation process set forth in application for accreditation and this section of LAP. Upon completion of the accreditation process and approval by the APC, the applicant laboratory shall enter into a License Agreement with NFRC and pay any applicable fees.

In order to maintain accreditation, a laboratory shall submit, by December 15th, an application for renewal of accreditation, if applicable, participate in regularly scheduled NFRC accreditation workshops and training programs in accordance with Section 6.1, participate in Periodic Reviews in accordance with Section 6.2, participate in all inter-laboratory comparisons in accordance with Section 6.3, pay all applicable fees, including any fines which may be assessed under the NFRC Compliance Assurance Program, and shall otherwise comply with all requirements of this LAP and the License Agreement.

The renewal application shall be submitted to include any and all changes that have occurred since the initial application for accreditation was submitted. This may be done by revising a copy of the initial application or by submitting an amended application with references to the specific sections of the initial application that have changed. If there are no modifications from the original application, the laboratory is not required to submit a renewal application.

5.3 Licensing Agreement

The License Agreement is the principal document governing the relationship between NFRC and an NFRC accredited laboratory. The agreement also governs the use of NFRC's registered certification mark by an accredited laboratory and advertising of the laboratory's NFRC accreditation. The License Agreement does not become effective, and a laboratory shall not be authorized to issue reports or to advertise its NFRC participation until the agreement is signed by NFRC and a fully executed copy is delivered to the laboratory.

5.4 Application for Accreditation or Renewal of Accreditation

A testing or simulation laboratory seeking NFRC accreditation through the Accreditation Program may initiate the accreditation process or accreditation renewal process by filing an initial laboratory application with NFRC.

- A. The initial application form for simulation laboratories is NFRC 701.01, which can be found on the NFRC website.
- B. The initial application form for testing laboratories is NFRC 701.02, which can be found on the NFRC website.
- C. Application and accreditation fees are set forth in the most current NFRC 704. The initial application shall be completed in full and be accompanied by the required application fee.
- D. If there are any changes to the initial application content, the accredited laboratory shall update the appropriate sections and submit a revised application.

5.5 Initial Review for Accreditation

A testing or simulation laboratory seeking initial NFRC accreditation shall be evaluated by an NFRC Inspector.

5.5.1 Laboratories (Initial Review)

- A. Upon receipt by NFRC of an initial application and required application fees from a laboratory desiring accreditation to NFRC 100, NFRC 101, NFRC 102, NFRC 200, NFRC 201, NFRC 400, NFRC 500 and any other of the Rating Procedures

for which the testing laboratory wishes to issue test reports for use in connection with the Certification Program a laboratory accreditation competence evaluation and initial on-site visit shall be scheduled and conducted by the NFRC Inspector.

- i. The initial simulation laboratory inspection will be conducted in accordance with NFRC 701.08.
- ii. The initial testing laboratory inspection will be conducted in accordance with NFRC 701.09.

5.5.2 All Laboratories (Initial Review) Inspection Report

- A. Following the initial inspection the NFRC Inspector shall prepare the laboratory initial inspection report. Based on the inspection findings, the inspector shall provide the initial inspection report to the laboratory within thirty (30) days of the inspection date. The laboratory shall provide responses to the action items within the initial inspection report to the NFRC Staff within thirty (30) days.
- B. If there is a dispute of any of the recommended or required action items within the initial report by the laboratory, then the NFRC Inspector shall submit the initial report to the APC for review of the disputed action items and determine whether to concur with the laboratory's claims. If the APC concurs with the laboratory's disputed action item(s), a revised inspection report shall be generated by NFRC Staff and submitted to the laboratory within fifteen (15) days.
- C. Responses to the recommended and required actions from the laboratory shall be reviewed by the NFRC staff within fifteen (15) days. The inspection report, the corresponding laboratory's responses, and recommendations by NFRC Staff will be submitted to the APC for final re-accreditation approval. The APC shall submit their approval within thirty (30) days of the initial or revised (if applicable) inspection report.

5.6 Grant of Accreditation

If an applicant laboratory fulfills all accreditation requirements, the NFRC Inspector shall recommend to the APC, in the judgment of the NFRC Inspector, that a Certificate of Accreditation be issued to the applicant authorizing it to be an NFRC-accredited laboratory and to provide either NFRC testing or simulation services or both, as the case may be, in accordance with this LAP. The APC shall make a final determination as to whether to issue a Certificate of Accreditation based upon the

recommendation by the NFRC Inspector and such other information as it deems appropriate. The Certificate shall be valid for one year from the date of issuance unless terminated sooner by the laboratory or suspended or revoked by NFRC. A laboratory shall not conduct tests or simulations or issue reports, purporting to be NFRC reports upon which NFRC Product Certification Authorization may be based, until NFRC provides a copy of the License Agreement signed by NFRC and the laboratory and an NFRC Certificate of Accreditation via facsimile, mail, or email to the laboratory.

5.7 Denial of Accreditation

- A. No NFRC License Agreement shall be entered into and no Certificate of Accreditation shall be issued by NFRC until all specified deficiencies set forth in a Final Assessment Report have been corrected to the satisfaction of the APC. If the time period for correction of deficiencies has expired without correction of the specified deficiencies, the APC shall deny accreditation.
- B. If an applicant laboratory fails to fulfill any requirements for accreditation as determined by the APC, NFRC staff shall inform the applicant laboratory that accreditation is denied and specify the reasons for the determination. A denial of accreditation may be appealed in accordance with the procedures set forth in Section 8 hereof.

5.8 Certificates of Accreditation

All Certificates of Accreditation are the property of NFRC and shall become void and be returned within 5 business days to NFRC upon expiration of the one-year term of accreditation, in the absence of renewal of accreditation pursuant to Section 5.4 or termination or revocation of accreditation.

5.9 Renewal of Accreditation

In order to renew accreditation, an NFRC laboratory shall follow Section 5.4 hereof.

5.10 Post Accreditation Inspections

NFRC retains the right to conduct an on-site inspection in order to ensure that the testing or simulation laboratory continues to meet the NFRC requirements.

6. PERIODIC REVIEW AND PROFICIENCY TESTING FOR CERTIFICATION MAINTENANCE AND ACCREDITATION RENEWAL

The following requirements shall be fulfilled by a laboratory to obtain or retain accreditation and a simulator to retain certification.

6.1 Continued Laboratory Accreditation and Simulator Certification Workshop Requirements

6.1.1 Scope of the Workshop

To purpose of the workshops is to maintain the highest accuracy and quality of simulation and testing. These serve as the basis for NFRC energy performance rating values provided to consumers. The initial NFRC certification for simulators and accreditation for laboratories should not be based only on passing an initial exam or initial inspection. Every Individual-in-responsible charge and NFRC certified simulator shall attend to maintain the technical competence.

This workshop provides NFRC staff a means to disseminate new procedures, modeling rules, to all parties to uniformly maintain repeatability of results.

Depending upon the material to be presented at the workshop, the workshop may be a face-to-face meeting or in the form of an online presentation. This is at the discretion of the NFRC Staff and the APC.

6.1.2 Responsibility of NFRC

NFRC staff, 90 days before the scheduled workshop shall notify all NFRC accredited laboratories individual-in-responsible charge and NFRC certified simulators of the workshop location.

- A. Staff shall discuss the findings of the ILC during the NFRC scheduled LAP workshop if applicable.
- B. Staff shall discuss all technical interpretations and updated procedure changes during the scheduled workshop.
- C. NFRC staff shall report of all action items from the workshop to APC within fifteen (15) working days. The need to address action items shall be communicated by NFRC staff on behalf of the APC to appropriate NFRC committee chairs for necessary action and resolution. APC members shall be informed by the staff about the resolution of the action item. The APC chair shall inform the Board of any action item not resolved within six 6 months.

- D. Each NFRC certified simulator shall attend workshops held to teach any new version of NFRC–approved software or to implement new computer software program or procedures and pass the associated examinations to maintain certified simulator status.
- E. NFRC staff shall maintain a history sheet of attendance and shall inform APC about any breach of requirements of attendance. Upon receipt of the report from the staff, APC shall issue a notification of suspension to the accredited laboratory.

6.1.3 Responsibility of NFRC Accredited Laboratory and Certified Simulator

- A. Each NFRC Accredited Laboratory Individual-in-Responsible-Charge shall attend at least two of three regularly scheduled annual NFRC Accreditation Workshops as a condition for continued accreditation.
- B. Each NFRC Accredited Simulation Laboratory Simulator-in-Responsible-Charge and NFRC certified simulator shall attend at least two of three regularly scheduled annual NFRC Accreditation Workshops at least twice every three years.
 - i. If, for any reason deemed an emergency, attendance is less than those stipulated in Section 6.1.3.A and Section 6.1.3.B; the person shall request an excused absence by the APC. Upon approval by the APC of the emergency excused absence, the person may, at the discretion of the APC, continue as a simulator or individual-in-responsible-charge or NFRC certified simulator. If the APC does not grant an excused absence, the person shall be immediately suspended as the individual-in-responsible-charge or simulator-in-responsible-charge or NFRC certified simulator until such time that the person satisfactorily meets the conditions stipulated by the APC. If this individual is the laboratory’s only designated individual-in-responsible-charge or simulator-in-responsible-charge, the laboratory shall follow the provisions as stipulated in Section 7.1.2.B.i.
- C. In the event that the APC has determined that the material and/or information presented at the workshop or task group meeting is necessary for continuation as an individual-in-responsible-charge or simulator-in-responsible-charge, the APC shall provide a course of action for the party to indicate competency. The course of action shall include the requirement

of making up the session within a specified timeline to be determined by the APC.

- D. Failure of a laboratory to meet the workshop attendance requirement of in Section 6.1.3.A and Section 6.1.3.B shall result in immediate and automatic suspension of the laboratory's accreditation with no action required by the APC. Accreditation shall be reinstated upon fulfillment of the requirement.
- E. Laboratories with multiple locations shall have the Individual-In-Responsible-Charges from each location follow Section 6.1.3.A and Section 6.1.3.B for NFRC workshop attendance.

6.2 Periodic Review

6.2.1 NFRC Right to Reports

NFRC reserves the right to obtain a copy of any report generated by an accredited laboratory for the purpose of submittal to an NFRC-licensed Certification and Inspection Agency (IA) for certification authorization (CAR), and if requested, shall be submitted to NFRC at the same time the report is sent to the IA.

6.2.2 All Laboratories

- A. Not less than once in two years following accreditation, but more often if deemed necessary by the APC, NFRC shall conduct a technical evaluation assessment ("Periodic Review") of each accredited laboratory. The NFRC Inspector, with the concurrence of the APC, will determine if an on-site inspection of the laboratory is necessary in connection with a Periodic Review. The laboratory Periodic Review assessment shall be conducted by the NFRC Inspector and shall be based on all of the requirements of the Accreditation Program. NFRC has the right to conduct an unannounced on-site inspection or a Periodic Review at any time if deemed necessary or appropriate by the APC. The NFRC Inspector shall not be an employee or contractor of, or have a similar relationship to, any NFRC accredited laboratory.
- B. Failure to submit to the Periodic Review or to an on-site inspection shall result in immediate issuance of a Notice of Suspension or the laboratory will be refused a renewal accreditation. A suspension may be appealed in accordance with the procedures set forth in Section 8.1. A suspension may be withdrawn by the NFRC Inspector, upon approval by the

APC, upon submission to a Periodic Review and compliance with all program requirements.

- C. The two-year on-site inspection cycle shall be performed every other year based on the last periodic review.

6.2.3 Simulation Laboratories

- A. The Periodic Review shall consist of the following:
 - i. Review of the laboratory's continuing compliance with the applicable conditions, criteria and obligations set forth in Section 3, Section 4, Section 5 and Section 6 hereof.
 - ii. Review of the computer simulation data files, for product lines submitted for NFRC product certification authorization and components submitted for approval, where applicable, or listed in the NFRC Certified Products Directory selected at random by the NFRC Inspector from files of the simulation laboratory, NFRC IAs, or a combination of such files and may include simulation data files for the same Product Line or component from both the simulation laboratory and any IA.
 - iii. Review of any of the following information, which the laboratory shall make available:
 - a) All NFRC approved simulation software files for each Product Line or component selected by the NFRC Inspector (a minimum of three Product Lines and components shall be evaluated)
 - b) A complete report submitted on behalf of the product line manufacturer to the IA for certification authorization
 - c) All product drawings for the Product Line or component
 - d) Any documentation provided by the manufacturer (e.g. spacer information, material conductivities, Low-E coating data, etc.)

- e) Proper documentation of any assumptions and/or technical interpretations used in simulation
- iv. Comparison of product or component computer simulation files for review by NFRC and comparison with manufacturers' as-built drawings on file with the laboratory.
- v. Evaluation of compliance with the following:
 - a) Independence criteria and procedure compliance (Section 3.1)
 - b) Technical competence (Section 3.2)
 - c) In-service education and training records (Section 6.5)
 - d) Simulation report format (NFRC 701.03)
 - e) Simulation equipment and operations manual (Section 1.5 of NFRC 701.08)
 - f) Quality control program (Section 1.6 of NFRC 701.08)
 - g) Record keeping practices (Section 1.7 of NFRC 701.08)
- B. A laboratory subject to a Periodic Review shall provide access to all information specified in Section 6.2.3, and failure to do so could result in issuance of a Notice of Suspension as set forth in Section 7.2.
- C. If the NFRC Inspector determines that a laboratory is not in compliance with any of the applicable provisions of Section 3, Section 4, Section 5 and Section 6 hereof and the APC concurs, the NFRC Inspector will notify the laboratory of specified deficiencies and will require that specified corrective action, set forth in the notification, be taken not later than 30 calendar days after the date of notification. Depending upon the severity of a non-compliance issue, the NFRC Inspector may request the APC to make a determination on the status of laboratory's accreditation within 5 business days of notification. The following protocol shall apply if results are deemed to be incorrect in a simulation report that has been submitted for certification authorization.

- i. NFRC simulations and corresponding results shall be reviewed for compliance with modeling procedures as stipulated in NFRC 100, NFRC 200, NFRC 303, NFRC 304, NFRC 500, the NFRC Simulation Manual, Technical Interpretations and other referenced or required documents, when applicable. If the review determines that the results submitted for certification are incorrect due to modeling errors, the NFRC Inspector shall immediately notify the APC and the APC shall make the judgment if a notification of the simulation deficiencies needs to be issued to the simulation laboratory Individual-in-Responsible-Charge.
- ii. The NFRC Inspector shall cite the appropriate document(s) and section number(s) in reference to the noncompliant modeling techniques or requirements in the notification.
- iii. Upon notification of the NFRC-accredited Simulation Laboratory Simulator-in-Responsible-Charge, the NFRC Inspector shall also notify the Independent Certification and Inspection Agency of the findings. If the APC deems necessary, the simulation report shall be immediately suspended until such time that an amended report reviewed and approved by the NFRC Inspector and is provided to the NFRC IA for review and approval.
- iv. The NFRC Inspector shall instruct the simulation laboratory to perform simulations to correct the error(s) found, and upon completion of the re-simulation(s), the data files and information shall be reviewed by the NFRC Inspector for compliance, the simulation laboratory shall reissue an amended simulation report if applicable upon acceptance by the NFRC Inspector, and submit it to the NFRC IA.
- v. It shall be the responsibility of the NFRC-accredited Simulation Laboratory to notify the manufacturer of any revised rating results.
- vi. Failure to adhere to the requirements of this section may result in immediate suspension of accreditation at the discretion of the APC.

- D. A simulation laboratory periodic inspection assessment in connection with a Periodic Review, whether for accreditation, renewal, or in connection with an unannounced inspection, the NFRC Inspector shall prepare the laboratory inspection report. Based on the inspection findings, the inspector shall provide the initial inspection report to the laboratory within thirty (30) days of the inspection date. The laboratory shall provide responses to the action items within the initial inspection report to the NFRC Staff within thirty (30) days.
- E. If there is a dispute of any of the recommended or required action items within the initial report by the laboratory, then the NFRC Inspector shall submit the initial report to the APC for review of the disputed action items and determine whether to concur with the laboratory's claims. If the APC concurs with the laboratory's disputed action item(s), a revised inspection report shall be generated by NFRC Staff and submitted to the laboratory within fifteen (15) days.
- F. Responses to the recommended and required actions from the laboratory shall be reviewed by the NFRC staff within fifteen (15) days. The inspection report, the corresponding laboratory's responses, and recommendations by NFRC Staff will be submitted to the APC for final re-accreditation approval. The APC shall submit their approval within thirty (30) days of the initial or revised (if applicable) inspection report.
 - i. In the event that the specified deficiencies have not been remedied by the conclusion of the specified time period, in the judgment of the NFRC Inspector and with the approval by the APC, the APC shall immediately suspend the laboratory's accreditation by issuance of a Notice of Suspension.
- G. A technical evaluation report for an NFRC Certified Simulator employed by an NFRC Accredited Simulation Laboratory shall be prepared by the NFRC Inspector, and a draft copy provided to the simulation laboratory not later than 60 calendar days after receipt of the required materials.
- H. A suspension under this section may be appealed in accordance with the procedures set forth in Section 8.1 hereof. A suspension may be withdrawn by the APC, upon a determination by the APC that the specified deficiencies have been remedied.

- I. In the event of a suspension of accreditation under this section and in the further event that the laboratory does not take corrective action sufficient to permit the NFRC Inspector to determine that the deficiencies have been remedied within the 30 calendar days after the date of the Notice of Suspension, the APC shall issue a Notice of Revocation. The revocation may be appealed in accordance with the procedures set forth in Section 8.1 hereof.
- J. All costs, including but not limited to travel, lodging, and NFRC staff time connected to a re-inspection necessitated by a failure of the simulation laboratory to meet NFRC requirements in the initial inspection or subsequent periodic reviews, shall be borne by the laboratory and not by NFRC.
- K. See "Preparing for an Inspection as an NFRC-Accredited Simulation Laboratory," attached to the Simulation Laboratory Accreditation Initial Application for more information about inspections.

6.2.4 Testing Laboratories (U-factor, Condensation Resistance, SHGC and Air Leakage)

- A. If the laboratory is accredited for any or all of the following: NFRC 100, NFRC 101, NFRC 102, NFRC 201, NFRC 400 or NFRC 500 testing, the on-site periodic review shall be conducted for all procedures at the same inspection period.
- B. The Periodic Review shall consist of the following:
 - i. Review of the laboratory's continuing compliance with the applicable conditions, criteria and obligations set forth in Section 3, Section 4, Section 5 and Section 6 hereof.
 - ii. Review of any of the following information, which the laboratory shall make available:
 - a) All NFRC approved test files for each Product Line or component selected by the NFRC Inspector (a minimum of three Product Lines and components shall be evaluated)
 - b) A complete report submitted on behalf of the product line manufacturer to the IA for certification authorization

- c) All product drawings for the Product Line or component
 - d) Proper documentation of any technical interpretations used
- iii. Evaluation of compliance with the following:
- a) Independence criteria and procedure compliance (Section 3.1)
 - b) Technical competence (Section 3.2)
 - c) In-service education and training records (Section 6.5)
 - d) Test report format per test type (NFRC 701.03; NFRC 701.04; NFRC 701.05; NFRC 701.06; and / or NFRC 701.07)
 - e) Testing equipment and operations manual (Section 1.5 of NFRC 701.09)
 - f) Calibration records (Section 1.5 of NFRC 701.09)
 - g) Calibration examination of an in-house CTS Panel (Section 1.5.2 of NFRC 701.09)
 - h) Quality control program (Section 1.6 of NFRC 701.09)
 - i) Record keeping practices (Section 1.7 of NFRC 701.09)
 - j) Processing of specimen (Section 1.8 of NFRC 701.09)

C. The staff competence and equipment evaluation for testing laboratories requires that the applicant conduct at least one NFRC 102 or NFRC 201 test of a fenestration product specimen selected by the NFRC Inspector, during the inspection. An in-house CTS Panel test shall be performed and/or reviewed for evaluation during the inspection. An additional test during the inspection, either another CTS Panel or fenestration product, shall be at the discretion of the NFRC Inspector. The maximum number of tests shall be three during any Periodic Review.

- i. The staff competence and equipment evaluation for air leakage testing laboratories requires that the laboratory conduct at least two NFRC 400 tests of fenestration products selected by the NFRC Inspector during the inspection. The maximum number of tests required during any periodic review shall be three, with one of those tests being an air leakage calibration.
 - ii. Specimens for air leakage testing shall be provided by the laboratory, unless the laboratory notifies NFRC at least one month prior to the scheduled inspection that product will not be available. In this case, NFRC shall provide product for testing.
 - iii. Air leakage calibration tests shall be mandatory during an on-site inspection.
 - D. A test laboratory periodic inspection assessment in connection with a Periodic Review, whether for accreditation, renewal, or in connection with an unannounced inspection, the NFRC Inspector shall prepare the laboratory inspection report. Based on the inspection findings, the inspector shall provide the initial inspection report to the laboratory within thirty (30) days of the inspection date. The laboratory shall provide responses to the action items within the initial inspection report to the NFRC Staff within thirty (30) days.
 - E. If there is a dispute of any of the recommended or required action items within the initial report by the laboratory, then the NFRC Inspector shall submit the initial report to the APC for review of the disputed action items and determine whether to concur with the laboratory's claims. If the APC concurs with the laboratory's disputed action item(s), a revised inspection report shall be generated by NFRC Staff and submitted to the laboratory within fifteen (15) days.
 - F. Responses to the recommended and required actions from the laboratory shall be reviewed by the NFRC staff within fifteen (15) days. The inspection report, the corresponding laboratory's responses, and recommendations by NFRC Staff will be submitted to the APC for final re-accreditation approval. The APC shall submit their approval within thirty (30) days of the initial or revised (if applicable) inspection report.
 - i. In the event that the specified deficiencies have not been remedied by the conclusion of the specified time

period, in the judgment of the NFRC Inspector and with the approval by the APC, the APC shall immediately suspend the laboratory's accreditation by issuance of a Notice of Suspension.

- G. If the NFRC Inspector determines that an accredited laboratory is not in compliance with any of the applicable provisions of Section 3, Section 4, Section 5 and Section 6, hereof and the APC concurs, the NFRC Inspector will notify the laboratory of specified deficiencies and require that corrective action outlined in the notification, be taken. Depending upon the severity of a non-compliance issue, the NFRC Inspector may request the NFRC APC to make a determination on the status of laboratory's accreditation within 5 business days of notification. Corrective action shall be taken not later than the last day of the applicable period specified below. The period will commence from the date the notification specifying the deficiencies are signed by the NFRC Inspector. No test reports or testing shall be performed until all corrective measures have been completed.
- i. For calibration and procedural deficiencies, the applicable period shall be no longer than 30 calendar days, but may be shorter in the discretion of the APC;
 - ii. For minor test equipment deficiencies, the applicable period shall be no longer than 30 calendar days, but may be shorter in the discretion of the APC; and
 - iii. For major test equipment deficiencies, the applicable period shall be no longer than 90 calendar days, but may be shorter with the discretion of the APC. The NFRC Inspector shall reevaluate the laboratory, which may, but need not, include a re-inspection, if deemed necessary by the APC, prior to issuance of a Notice of Suspension.
- H. In the event that the specified deficiencies have not been remedied following the conclusion of the applicable time period in the judgment of the APC, the APC shall immediately suspend the laboratory's accreditation by issuance of a Notice of Suspension. A suspension may be appealed in accordance with the procedures set forth in Section 8.1 hereof. The APC upon a determination by the NFRC Inspector that the deficiencies have been remedied may withdraw a suspension.

- I. In the event of a suspension of accreditation under this section and in the further event that the laboratory does not take corrective action sufficient to permit the NFRC Inspector to determine that the deficiencies have been cured no later than 30 calendar days after the date of the Notice of Suspension, the APC shall issue a Notice of Revocation. The revocation may be appealed in accordance with the procedures set forth in Section 8.1 hereof.
- J. All costs, including but not limited to travel, lodging, NFRC staff time, incurred in connection with a re-inspection necessitated by a failure of a testing laboratory to meet NFRC requirements in the initial inspection or subsequent periodic reviews shall be borne by the laboratory and not by NFRC.
- K. See "Preparing for an Inspection as an NFRC-Accredited Testing Laboratory," attached to the Testing Laboratory Accreditation Initial Application, for more information about inspections.

6.3 Inter-Laboratory Comparison Testing and Simulation

- A. Each accredited testing laboratory (thermal and air leakage) shall participate in an NFRC-sponsored ILC physical testing evaluation not less than once in each year following accreditation.
- B. Each NFRC-certified simulator and NFRC simulator-in-responsible-charge employed by an accredited simulation laboratory shall participate in an NFRC-sponsored ILC simulation evaluation not less than once in each year following accreditation. NFRC will select fenestration product specimens to be tested or simulated in an ILC evaluation.
- C. NFRC staff shall provide to all participating individuals and laboratories and the APC the preliminary results of the ILC with 30 days of the ILC return deadline date.
- D. NFRC staff shall provide to the APC a draft of the ILC report within 90 days calendar days of the ILC return deadline date. Upon the APC approval of the ILC report, NFRC Staff shall provide the report to all participating simulators and laboratories.
- E. Procedural and logistical requirements for NFRC sanctioned ILC shall be established by NFRC staff and approved by the APC, in its sole discretion prior to the issuance of the ILC.

6.4 Blind Competence Evaluation

- A. Blind competence evaluations shall be performed only when deemed necessary by the APC. NFRC will pay for the sample and the shipping of the sample.
- B. If the test or simulation results of the blind competence evaluation from a participating laboratory do not meet the criteria established by the APC, NFRC shall notify the laboratory, and the laboratory shall have 45 calendar days from the date of such notification to take appropriate corrective action so that it will meet NFRC standards upon a re-evaluation. The laboratory shall not issue any reports for Certification Program testing or simulation during that specified time period.
- C. If a laboratory for which corrective action is required completes the corrective action within the specified time period, the NFRC Inspector shall schedule a retesting or re-simulation of the blind competence evaluation based on the same rules of the initial test. At the discretion of the APC a supervised inspection may be necessary.
- D. If the laboratory meets the relevant criteria in the retest or re-simulation, the laboratory may continue testing and simulation under the provisions of the Certification Program.
- E. If a laboratory fails to take corrective action within the specified period, or fails to meet the specified tolerances in the retest or re-simulation, the APC shall suspend the laboratory's accreditation by issuance of a Notice of Suspension. A suspension may be appealed in accordance with the procedures set forth in Section 8.1 hereof. The APC, upon a determination by the NFRC Inspector that the deficiencies have been remedied, shall withdraw the suspension.
- F. If a suspended laboratory does not take the required corrective action within 45 calendar days after the issuance of the Notice of Suspension, the APC shall issue a Notice of Revocation. The revocation may be appealed in accordance with the procedures set forth in Section 8.1.
- G. All costs related to retesting, re-simulation, or re-inspection necessitated by failure of a laboratory to meet requirements in the first, or any subsequent blind competence test or evaluation, shall be borne by the laboratory and not by NFRC per NFRC 705.

6.5 Continuing Education

- A. A laboratory seeking accreditation shall have an in-service education program, as referenced in Sections i, and ii (below), for training and education of staff who provide NFRC services, which covers all

requirements of the Certification Program, the Accreditation Program, and NFRC technical procedures then in effect. The education program shall ensure that changes in, interpretations of, and updates to the Certification Program, the Accreditation Program, NFRC 100, NFRC 101 and NFRC 102, NFRC 200, NFRC 201, NFRC 300, NFRC 400, NFRC 500 and other applicable NFRC Procedures are conveyed promptly to laboratory staff.

- i. A continuing education plan shall be submitted to NFRC in connection with the initial accreditation application process and any renewal application. The plan shall provide for regular in-house training programs; periodic review of individuals conducting tests or simulations by the individual-in-charge; and participation in regularly scheduled NFRC workshops (Section 6.1).
 - ii. Participation in ASTM and ASHRAE committees promulgating and refining thermal and other testing and simulation methods focusing on fenestration products (ASTM Committee C-16 and ASTM Committee E-6 and ASHRAE TC 4.5) is recommended but not mandatory.
- B. Each laboratory shall maintain a log of continuing education activities, which shall be made readily available to the NFRC Inspector.
- C. Compliance by a test or simulation laboratory with the education requirements of Section 6.5 shall be reviewed by the NFRC Inspector in connection with the Periodic Review (Section 6.2).

7. SUSPENSION AND REVOCATION OF ACCREDITATION

The basis for consideration of suspending or revocation shall be based solely on the judgment of the APC as determined by the evidence presented.

If an accredited laboratory is suspended, the laboratory shall not be permitted to issue reports until all corrective actions have been addressed and the suspension is withdrawn by the APC. A suspension shall result in having the suspended laboratory removed from the list of approved laboratories until reinstated.

If a laboratory's license is revoked, the laboratory license agreement shall be terminated and the laboratory shall not be permitted to participate as a laboratory in the NFRC program. The laboratory shall be permitted to reapply (Section 5) after one (1) calendar year based on the date of the revocation. A revocation shall result in having the revoked laboratory removed from the list of approved laboratory list.

7.1 Requirements of laboratory upon receipt of non-compliance notification

7.1.1 Inspections

- A. If the NFRC Inspector determines at any time during an inspection that a laboratory has failed to adhere to the requirements of the Section 3, Section 4, Section 5 and Section 6, supplemental documents, and in conjunction with any test or simulation report issued by the laboratory for use in connection with the Certification Program, the NFRC Inspector shall notify the laboratory of the specified deficiencies and shall require that specified corrective action set forth in the notification.

General Guidelines:

- i. The expected timeframe for a laboratory's reply with an action plan is 14 calendar days.
 - ii. For calibration and procedural deficiencies, the applicable period shall be no longer than 30 calendar days, but may be shorter in the discretion of the APC.
 - iii. For minor test equipment deficiencies, the applicable period shall be no longer than 60 calendar days, but may be shorter in the discretion of the APC.
 - iv. For major test equipment deficiencies, the applicable period shall be no longer than 90 calendar days, but may be shorter in the discretion of the APC.
- B. If the NFRC Inspector determines at any time during an inspection that the final performance results are erroneous, further investigation in regards to repeated occurrences of the error is required by the inspector. The inspector will notify APC about the recommended action to be taken immediately. The APC may upon review suspend the laboratory.

7.1.2 LAP general requirements

- A. Independence Requirements
- i. If at any time an accredited laboratory is not in compliance with independence criteria and / or procedures in accordance with Section 3.1, the APC shall notify the laboratory of specified deficiencies and shall require that specified corrective action, set forth in the notification, be taken not later than 30 calendar days

after the date of such notification. If the specified corrective action is not taken within the required period, the APC, which may in its discretion, issue a Notice of Suspension set forth in Section 7.2. An extension may be requested from the APC. An application for extension shall be submitted in writing.

- ii. If the specified corrective action is not take while under suspension within 30 calendar days after the date of the Notice of Suspension, a Notice of Revocation shall be issued by the APC set forth in Section 7.3.

B. Technical Competence

- i. In the event an individual-in-responsible-charge or simulator-in-responsible-charge terminates employment with a laboratory, or has been suspended under the provisions of Section 3.2, the laboratory shall notify NFRC of the identity of the new individual-in-responsible-charge or simulator-in-responsible-charge. The lab shall fill this position within 30 calendar days of the termination of the employment of such person. Testing or simulation may continue throughout this 30-day period, however, no NFRC reports may be issued. All reports generated from data obtained during this time period shall be signed by the new individual-in-responsible-charge. NFRC shall approve the competency to perform the NFRC procedures of this new person-in-responsible-charge before any NFRC test or simulation report can be submitted as the basis for NFRC Product Certification Authorization.
 - a) In the event that the laboratory fails to fill the vacated position of Individual-in-Responsible-Charge or Simulator-in-Responsible-Charge by replacing that person within the required thirty (30) calendar days as set forth in Section 7.1.2.B.i the laboratory will be issued a Notice of Suspension set forth in Section 7.2.
 - b) In the event that the laboratory fails to notify NFRC within the required 10 calendar days set forth in Section 3.2.1.A above that such individual-in-responsible-charge has terminated employment the laboratory will be issued a Notice of Suspension as set forth in Section 7.2.

C. NFRC Certified Simulator

- i. In the event a certified simulator who fails to participate in an NFRC-sponsored ILC simulation evaluation shall be suspended until such time that the person satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension.
- ii. In the even a certified simulators fails to attend any mandatory workshop shall be suspended until such time that the person satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension.
- iii. A certified simulator who fails to attend at least two of three regularly scheduled annual NFRC Accreditation Workshops at least twice every three years shall be suspended until such time that the person satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension.

NFRC Staff shall issue a Notice of Suspension as set forth in Section 7.2. In the event the suspended certified simulator is the only Simulator-in-responsible-charge for an NFRC Accredited Laboratory, the laboratory must comply with Section 7.1.2.B. A copy of the Notice of Suspension will be sent to their NFRC Accredited laboratory and Simulator-in-responsible-charge.

D. NFRC Test labs

- i. In the event an NFRC Accredited Laboratory fails to participate in an NFRC-sponsored ILC test shall be suspended until such time that the laboratory satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension. NFRC Staff shall issue a Notice of Suspension as set forth in Section 7.2.

E. NFRC Accreditation

- i. Fees: NFRC Staff shall issue a Notice of Suspension as set forth in Section 7.2 to laboratories which are delinquent in paying the accreditation and associated fees 30 calendar days after the date the initial payment due date. Upon such a suspension, the laboratory shall not be allowed to issue reports for a minimum of thirty (30) days. NFRC staff shall deliver a Notice of

Suspension to reflect such a suspension. This suspension period does not extend the period of laboratory accreditation. If payment of said fees are not received in full by NFRC within 60 calendar days after the initial payment due date, the APC shall have the authority to revoke the laboratory's license agreement in accordance.

- ii. In the event that a laboratory is suspended more than one time in any twelve-month period, under Section 3, Section 4, Section 5 and Section 6, or under any provision of the License Agreement, a Notice of Revocation shall be issued by the APC set forth in Section 7.3. Such revocation shall commence on the date that the second Notice of Suspension would otherwise be issued and shall continue for a period of one year thereafter.
- F. The NFRC-accreditation of the laboratory may be reinstated at such time that the issues for suspension have been satisfactorily resolved at the discretion of the APC. The suspended laboratory shall be removed from the list of NFRC-accredited laboratories. The suspension may be appealed in accordance with the procedures set forth in Section 8.1 hereof.
- G. A Notice of Suspension may be withdrawn by the APC, upon making a determination, which may include a re-inspection, that the specified deficiencies have been remedied.
- H. In the event that the specified deficiencies are not corrected within the applicable period set forth in the Notice of Suspension, as set forth in Section 7.2, in the judgment of the APC, a Notice of Revocation shall be issued by the APC.
- I. A Notice of Revocation may be appealed in accordance with Section 8.1 hereof.
- J. All costs incurred by NFRC in connection with a re-inspection necessitated by a failure of the laboratory to meet the requirements of Section 3, Section 4, Section 5 and Section 6, shall be borne by the laboratory and not by NFRC.

7.2 Grounds for Suspension of Accreditation

- A. A laboratory's accreditation may be suspended by the APC pursuant to any of the express provisions of Section 3, Section 4, Section 5 and Section 6 of this Accreditation Program or any of the express provisions of the Laboratory License Agreement.

- B. Upon a determination by the APC that a laboratory has acted in such a manner as to impair the objectivity or integrity of the Accreditation Program or to harm the reputation of NFRC, including, but not limited to, submission of false information to NFRC, or omission to submit to NFRC any material information required to be submitted by the laboratory, in connection with obtaining or maintaining accreditation; knowingly or negligently issuing test reports that fail to meet all of the requirements of Section 3, Section 4, Section 5 and Section 6, supplemental documents, and in conjunction with any test or simulation report issued by the laboratory for use in connection with the Certification Program; or misrepresentation by the laboratory in advertising or promotional materials of its accreditation status in general or with respect to any service offered by the laboratory.
- C. The basis for consideration of suspending or revocation as described in the Laboratory License Agreement shall be based solely on the judgment of the APC as determined by the evidence presented.

7.3 Grounds for Revocation of Accreditation

A laboratory's accreditation shall be revoked by NFRC in any of the following circumstances:

- A. Pursuant to any of the express provisions of Section 3, Section 4, Section 5 and Section 6 of the Accreditation Program or any of the express provisions of the Laboratory License Agreement
- B. Upon expiration of a laboratory's right to appeal a suspension of accreditation pursuant to Section 8.1.
- C. Upon a determination by the APC that a laboratory has acted in such a manner as to impair the objectivity or integrity of the Accreditation Program or to harm the reputation of NFRC, including, but not limited to, submission of false information to NFRC, or omission to submit to NFRC any material information required to be submitted by the laboratory, in connection with obtaining or maintaining accreditation; knowingly or negligently issuing test reports that fail to meet all of the requirements of applicable Test Procedures or Simulation Procedures; or misrepresentation by the laboratory in advertising or promotional materials of its accreditation status in general or with respect to any service offered by the laboratory.

8. APPEALS PROCEDURES

8.1 Appeals Procedure after Denial, Suspension or Revocation of Accreditation

- A. In the event that NFRC accreditation has been denied pursuant to Section 5.6 or suspended pursuant to Section 3, Section 4, Section 5 and Section 6 or the Laboratory License Agreement, the laboratory shall have the right, for a period of forty-five (45) calendar days after the date of issuance of an NFRC Notice of Denial or Suspension, as the case may be, to appeal to the APC.
- B. In the event that a laboratory's accreditation is revoked following the expiration of the period to appeal a suspension, in the absence of an appeal having been taken, the laboratory shall have the right, at its election, for a period of forty-five (45) calendar days after the date of issuance of a Notice of Revocation, to appeal the revocation to the APC.
- C. In the event that a laboratory's accreditation is revoked by a decision of the APC, the laboratory shall have the right, at its election, for a period of forty-five (45) calendar days after the date of issuance of a Notice of Revocation, to appeal the revocation to the NFRC Board of Directors.
- D. An appeal, whether from a Notice of Denial, Notice of Suspension, or Notice of Revocation, shall be in writing and sent by certified mail or other method which provides evidence of delivery to the Chairperson of the APC or the Board of Directors, as the case may be, with a copy to the NFRC Inspector, and shall specify the basis for the appeal.
- E. The appellant laboratory may, at the time of noticing its appeal, request, in writing, a hearing by the APC in the case of an appeal from a denial or a suspension or a revocation based on a suspension from which an appeal was not taken, or by the Board of Directors, in the case of an appeal from a revocation ordered by the APC upon an appeal from a suspension. In such an event, the APC or the Board of Directors shall, not later than 7 calendar days after the filing of the notice of appeal, notify the appellant laboratory of the date of the hearing, which shall be held as expeditiously as possible, but not later than 30 calendar days after the receipt of the notice of appeal.
- F. Not later than 14 calendar days prior to the hearing, the NFRC Inspector shall file with the APC, or the APC shall file with the Board of Directors, as the case may be, with a copy to the appellant laboratory, all written information and electronic data on which the

denial, suspension or revocation was based, and the appellant may file such evidence as the appellant believes will assist the APC or the Board of Directors in making its determination.

- G. At the hearing, NFRC shall present at least one witness, which shall be the NFRC Inspector and at least one member of the APC to sponsor the information described in Section 8.1.F and to explain the denial, suspension or revocation decision. The appellant laboratory may, but is not required to, be represented by counsel and to present evidence and witnesses on its behalf. Either party may cross-examine witnesses of the other party.
- H. Not later than 30 calendar days after the hearing, the APC or the Board of Directors, as the case may be, shall issue a written decision on behalf of NFRC. The decision shall be based solely on the record described in Section 8.1.F and Section 8.1.G. Except as otherwise permitted under the appeals procedures set forth in this section or under state law, the decision of the APC or the Board of Directors is final and binding.
- I. In any decision made by either the APC or the Board of Directors, any individual who has any financial, family or organizational affiliation with the appellant or with an entity or person, which operates in direct competition with the appellant, shall not participate in a determination of that body regarding the appellant laboratory.
- J. In the event that a laboratory elects to appeal any suspension or revocation of the laboratory's License Agreement and notwithstanding that the procedure for appeal is not otherwise expressly set forth in this Section 8, such appeal shall be conducted in accordance with the provisions of this Section 8.1.

9. REFERENCED DOCUMENTS

1. NFRC 100-2004: Procedure for Determining Fenestration Product U-factors.
2. NFRC 101-2006: Procedure for Determining Thermo-Physical Properties of Materials for Use in NFRC-Approved Software Programs.
3. NFRC 102-2004: Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
4. NFRC 200-2004: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
5. NFRC 201-2004: Procedure for Interim Standard Test Method for Measuring the Solar Heat Gain Coefficient of Fenestration Systems Using Calorimetry Hot Box Methods.

6. NFRC 300-2009: Test Method for Determining Solar Optical Properties of Glazing Materials and Systems.
7. NFRC 301-2009: Standard Test Method for Emittance of Specular Surfaces Using Spectrometric Measurements.
8. NFRC 303-2006: Creating a Laminate in Optics for NFRC Certification
9. NFRC 304-2007: Creating an Applied Film Layer in Optics for NFRC Certification
10. NFRC 400-2004: Procedure for Determining Fenestration Product Air Leakage
11. NFRC 500-2004: Procedure for Determining Fenestration Product Condensation Resistance Values.
12. NFRC 500UG-2004: User Guide to NFRC 500: Procedure for Determining Fenestration Product Condensation Resistance Rating Values.
13. NFRC 600-2007: Glossary and Terminology
14. NFRC 601-2008: NFRC Units and Measurement Policy
15. NFRC 700-2009: Product Certification Program
16. NFRC 701-2009: Laboratory Accreditation Program
17. NFRC 701.01-2009: Simulation Laboratory Application
18. NFRC 701.02-2009: Testing Laboratory Application
19. NFRC 701.03-2009: Simulation Reporting Requirements
20. NFRC 701.04-2009: NFRC 102 Thermal Test Reporting Requirements
21. NFRC 701.05-2009: NFRC 201 Solar Calorimeter Test Reporting Requirements
22. NFRC 701.06-2009: NFRC 400 Air Leakage Test Reporting Requirements
23. NFRC 701.07-2009: NFRC 500 Condensation Resistance Test Reporting Requirements
24. NFRC 701.08-2009: Simulation Laboratory Accreditation Requirements
25. NFRC 701.09-2009: Testing Laboratory Accreditation Requirements
26. NFRC 702-2009: Certification Agency Program
27. NFRC 703-2009: Research Manual
28. NFRC 704-2009: Fee Schedule
29. NFRC 705-2009: Component Modeling Approach Product Certification Program
30. NFRC 706-2009: IG Certification
31. NFRC 707-2009: Compliance and Monitoring
32. NFRC 708-2009: Calculation Entity Approval Program