existing constraints. This test depends upon the particular situation and the constraints imposed by environmental, economic, legal, and technological considerations. However, the test is *not* limited by the temporary unavailability of sufficient financial resources to implement either an alternative to a proposed action or a mitigation measure necessary to minimize impact. Thus, alternatives or mitigation measures shall not be rejected as "impracticable" solely on the basis of an increase in cost.

SECTION 4. POLICY

.01 The head of each organization unit shall insure that all of its activities related to this order are conducted in accordance with Executive Orders 11988 and 11990 and the Water Resources Council's "Floodplain Management Guidelines" (43 FR 6030). The heads of organization units with programs that may produce impacts on floodplains or wetlands shall issue specific procedures for complying with the Executive Orders. It shall be the responsibility of the heads of all organization units to devise mechanisms and to inform all prospective participants in their programs of the intent of Executive Orders 11988 and 11990 and the Department's policy as stated in this order.

.02 No organization unit shall participate in any action that would impact a floodplain or wetland until that organization unit determines that no practicable alternative exists to the action. In this case, the no action alternative shall be considered. Where a determination is made that no practicable alternative exists to impacting a floodplain or wetland and the no action alternative is unacceptable, the organization unit shall ensure that the action choses is the alternative which minimizes those impacts, *and* that all practicable mitigation measures are incorporated into the action which:

(a) minimize the risks of loss of life and property due to flood and storm damage; and

(b) minimize the adverse impacts on floodplain and wetland values and functions.

.03 Whenever an action requires locating in a floodplain or wetland area, each organization unit shall require locating the action, if practicable, within the floodplain and not within the wetland.

.04 The following proposed actions that impact wetlands not located within the floodplain are exempt from these procedures:

a. Federally assisted or permitted actions under construction prior to the effective date of this order; or

b. Federal actions for which a draft or final Environmental Impact Statement (EIS) was filed prior to October 1, 1977.

.05 Each organization unit, in carrying out this policy, shall insure that its actions are consistent with State coastal zone management programs as approved by the Secretary under the Coastal Zone Management Act of 1972 as amended (16 U.S.C. 1451 *et seq.*). Each organization unit shall also insure that its actions are in compliance with Section 10 of the Rivers and Harbors Act of 1899 and with Section 404 of the Clean Water Act of 1977 which require Department of the Army permits for construction and disposal of dredged material in waters of the United States, including adjacent wetlands (33 CFR 320-340).

SECTION 5. PROCEDURES.

.01 Organization Unit Responsibilities.

(a) The Deputy Assistant Secretary for Environmental Affairs shall serve as the focal point in the Department for implementing the requirements of this order.

(b) Each organization unit in implementing DAO 216-6 shall in addition determine whether the action under consideration is located in or would otherwise impact a floodplain or wetland. The determination shall be made in accordance with the Water Resources Council's "Guidance for Determining a Floodplain Location," (Vol. 42 FR 52590-52599, September 30, 2977).

(c) If a determination is made that a floodplain or wetland is impacted, each organization unit shall:

1. Determine if there is a practicable alternative which would avoid such impact. If no such alternative exists, determine if there is a practicable alternative which minimizes the impact on floodplains and wetlands; and

2. Identify and analyze resulting impacts including impacts on public health, safety and welfare; and floodplain and wetland natural values and functions.

.02 Public Notification Requirements.

(a) If it is determined that a proposed action would impact a floodplain or wetland, each organization unit shall insure that a notice of the proposed action is published in the newspaper of greatest circulation in the vicinity of the proposed action. The notice shall appear for at least three consecutive days and shall include a physical description of the location and surrounding area and the nature and extent of the proposed action. Attempts should also be made to inform the community, by publication or other means, in the area where the impact of the proposed action will occur. The organization unit shall allow at least 30 days from the publication date of the last required notice for receipt of public comments.

(b) The organization unit shall arrange for a public meeting to discuss the action where the organization unit determines that a public meeting will serve the public interest. The organization unit shall insure that at least two notices of such public meeting are published in the newspaper having the greatest circulation in the vicinity of the proposed action. Wherever possible, the community in the action's area of impact shall also be informed. The first of the required notices shall be published 15 to 20 days before the meeting date, and the second notice 2 to 4 days before the meeting date. Such notice shall include the location, date, and time of the meeting, a description of the proposed action's location and the surrounding area, and a brief description of the proposed action. In addition, copies of the notices shall be mailed to appropriate local, State and Federal agencies, public interest groups, news media, and any other agencies, groups, or individuals who have an interest in the action. If a public meeting is held conerning a proposal which requires an EIS, the meeting shall not be held until at least 15 days have elapsed from the date of publication of the draft EIS. The organization unit shall insure that a written transcript of the meeting is prepared.

(c) Each organization unit shall coordinate publication activities under this order with the Office of Public Affairs.

(d) In coorinating organization unit procedures under this order and DAO 216-6, each organization unit may establish additional public notification and consultative procedures, as appropriate, or as required by other authorities.

.03 Final Notice and Findings.

Upon determination of the practicable alternative and mitigation measures, the organization unit shall insure the publication of a final notice of the proposed action. The notice shall be published in the newspaper of greatest circulation in the vicinity of the proposed action for at least 3 consecutive days, and shall include a physical description of the location and surrounding area, a detailed description of the proposed action, the measures used to mitigate impacts, and the projected date of the action's initiation and completion. Attempts should also be made to inform the community, by publication or other means, in the area where the impact of the proposed action will occur The organization unit shall wait 15 days after publication of final notice before initiating the action.

ELSA A. PORTER,
Assistant Secretary for Administration.

[FR Doc. 78-27722 Filed 9-28-78; 8:45 am]

[4910-62]

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

[Notice 78-11]

PRESERVATION OF WETLANDS

Issuance of Internal Order

AGENCY: Department of Transportation (DOT).

ACTION: Notice of issuance of internal order.

SUMMARY: DOT herewith publishes for the information of the public its internal order implementing Executive Order 11990, Preservation of Wetlands.

EFFECTIVE DATE: August 24, 1978.

FOR FURTHER INFORMATION CONTACT

Martin Convisser, Director, Office of Environment and Safety, Office of the Assistant Secretary for Policy and International Affairs, Department of Transportation, 400 Seventh Street SW. Washington, D.C. 20590, 202-426-4357.

SUPPLEMENTARY INFORMATION: The principal drafter of the order is Sonya Hill, Office of Environment and Safety.

Issued in Washington, D.C., on September 22, 1978.

MARTIN CONVISSER,
Director, Office of Environment and Safety.

DEPARTMENT OF TRANSPORTATION

[Order 5660.1A]

PRESERVATION OF THE NATION'S WETLANDS

1. *Purpose.* This order sets forth the Department of Transportation (DOT) policy that transportation facilities and projects should be planned, constructed, and operated to assure the protection, preservation, and enhancement of the nation's wetlands to the fullest extent practicable, and establishes procedures for implementation of the policy.

2. *Cancellation.* DOT 5660.1, Preservation of the Nation's Wetlands, of 5-21-75.

3. *Background and Authority.* This order is issued pursuant to the following Executive Order and statutes:

(a) Executive Order 11990, dated May 24, 1977, "Protection of Wetlands," establishes a national policy "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." The order further provides that each agency shall provide leadership to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of federal lands and facilities, (2) providing federally undertaken, financed, or assisted construction and improvements, and (3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

(b) Sections 2 (b) and 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 1651 et seq.) provide that it is "national policy that special effort should be made to preserve the natural beauty of the countryside and the park and recreation lands, wildlife and waterfowl refuges, and historic sites."

(c) The National Environmental Policy Act of 1969 (NEPA) as amended (42 U.S.C. 4321 et seq.) establishes a national policy to "* * * promote efforts which will prevent or eliminate danger to the environment and biosphere and stimulate the health and welfare of man * * *." NEPA requires preparation of an environmental impact statement (EIS) for any major Federal action significantly affecting the quality of the human environment. Order DOT 5610.1B, "Procedures for Considering Environmental Impacts," of September 30, 1974, requires that information on impacts on fresh water and coastal wetlands be included in the EISs prepared pursuant to NEPA.

d. Section 2 of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) provides for consultation with the U.S. Fish and Wildlife Service and the State wildlife resources agency when "* * * waters of any stream or other body of water are proposed to be controlled or modified * * *."

e. The Water Bank Act (16 U.S.C. 1301) expresses the congressional finding that "it is in the public interest to preserve, restore, and improve the wetlands of the nation * * *."

f. The Coastal Zone Management Act (16 U.S.C. 145) establishes a policy to "preserve, protect, and develop natural resources of the coastal zone and where possible to restore them."

g. The Federal Water Pollution Control Act Amendments 1972 (33 U.S.C. 1151) establish a policy to "restore and maintain the chemical, physical, and biological intergrity of the Nation's waters."

4. *Definition.*

a. Wetlands are defined as lowlands covered with shallow and sometimes temporary or intermittent waters. This includes, but is not limited to, swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, and tidal overflows, as well as estuarine areas, and shallow lakes and ponds with emergent vegetation. Areas covered with water for such a short time that there is no effect on moist-soil vegetation are not included in the definition, nor are the permanent waters of streams, reservoirs, and deep lakes. The wetlands ecosystem includes those areas which affect or are affected by the wetland area itself; e.g., adjacent uplands or regions up and down stream. An activity may affect the wetlands indirectly by impacting regions up or down stream from the wetland or by disturbing the water table of the area in which the wetland lies. Attachment 1 references the wetlands classification system.

b. "New construction" for purposes of this order shall include any draining, dredging, channelizing, filling, diking, impounding, and related activities, and any structures or facilities begun or authorized after the effective date of this order. This does not include routine repairs and maintenance of existing facilities.

5. *Policy.* It is the policy of DOT to assure the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, and operation of transportation facilities and projects. In accordance with E.O. 11990, new construction located in wetlands shall be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such contruction. In making a finding of no practicable alternative, economic, environmental and other factors may be taken into account. Some additonal cost alone will not necessarily render alternatives or minimization measures impractical since additonal cost would normally be recognized as necessary and justified to meet national wetland policy objectives.

6. *Responsibilities.*

a. The Assistant Secretary for Policy and International Affairs (P-1) shall oversee the implementation of the policy set forth in this order, shall recommend any modifications of procedures that may be appropriate, and shall consult with the Department of the Interior, the Council on Environmental Quality, and other agenices as appropriate concerning the Department's implementation of these policies.

b. Heads of operating administrations shall distribute this order or promulgate appropriate guidance consistent with this order and the Executive Order and shall be responsible for the full implementation of the policies within their respective administrations.

c. The Assistant Secretary (P-1) and the heads of operating administrations jointly shall be responsible for preparation and/or dissemination of appropriate guidance, informational materials, training programs, and other materials necessary to comply with the Executive order's requirement that agencies provide leadership in the field of wetland protection. Such leadership should be particularly aimed at informing and guiding the actions of State and local transportation officials operating with the assistance of or subject to permits from DOT.

7. *Procedures.* The following procedures should be integrated into existing environmental and public participation processes to the maximum extent feasible. The policy of this order applies to any project located in or having an impact on wetlands.

a. New authorizations or appropriations transmitted to the Office of Management and Budget will indicate, if a specific action to be proposed will be located in wetlands, whether the proposed action is in accord with E.O. 11990.

b. The impacts of new construction projects on wetlands should be identified and discussed in any submissions made to State and metropolitan clearinghouses under Office of Management and Budget Circular A-95. Submissions to A-95 will not be required solely to address wetland issues. Appropriate opportunity for early review of proposals for new construction in wetlands should be provided to the public and to agencies with special interest in wetlands. This may include early public involvement approaches.

c. Any project which will have a significant impact on wetlands will require preparation of an EIS. Prior to the preparation of an EIS, agencies with jurisdiction and expertise concerning wetland impacts (U.S. Fish and Wildlife Service, State wildlife or natural resources agencies, and the Corps of Engineers, as appropriate) should be consulted for advice and assistance concerning the proposed undertaking.

d. An EIS (or negative declaration) on a proposal for new construction in wetlands should reflect the results of early coordination and should identify specific impacts of the project on the wetlands taking into consideration the matters listed in paragraph 6(f).

e. When federally owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way, or disposal to non-Federal public or private parties, the agency with jurisdiction over the lands should either (1) reference in the conveyance those uses that are restricted under this policy and other relevant Federal, State, or local wetlands regulations; or (2) attach other appropriate restrictions to the use of properties by the grantee or purchaser and any successor, except where prohibited by law; or (3) withhold such properties from disposal.

f. In carrying out any activities (including small scale projects which do not require documentation) with a potential effect on wetlands, operating agencies should consider the following factors in implementing the Department policy relevant to a proposal's effect on the survival and quality of wetland:

(1) Public health, safety, and welfare, including water supply, water quality, recharge and discharge, and pollution; flood and storm hazards; and sedimentation and erosion.

(2) Maintenance of natural systems, including conservation and long-term activity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish and wildlife, timber, and food and fiber resources; and other uses of wetlands in the public interest, including recreational scientific, and cultural uses as well as transportation uses and objectives.

g. Alternatives which would avoid new construction in wetlands must be studied, giving consideration to environmental and economic factors. If uses of wetlands is proposed, the alternatives analysis for major actions should have demonstrated that there is no practicable alternative to the use of the wetlands and that all practicable measures to minimize harm to the wetlands have been included.

h. For any major action which entails new construction located in wetlands, a specific finding should be made by the affected operating administration that (1) there is no practicable alternative to construction in the wetland and (2) that all practicable measures to mininmize harm have been included. The proposed finding should ordinarily be included in the final EIS or negative declaration for the proposal.

8. Applicability.

a. All programs and projects proposed for direct construction, assistance, or permit by the DOT shall be reviewed for consistency with the policy of this order.

b. This order does not apply to projects presently under construction or to projects for which all funds have been obligated through fiscal year 1977, to projects and programs for which a draft or final EIS was filed prior to October 1, 1977.

c. Nothing in this order shall apply to assistance provided for emergency work essential to save lives and protect property or public and safety, performed pursuant to sections 305 and 306 of the Disaster Relief Act of 1974 or pursuant to other emergency operations.

ALAN BUTCHMAN,
The Deputy Secretary.

ATTACHMENT 1

Further information concerning the type, number, and location of wetland areas may be obtained from Circular No. 39 of the Department of the Interior, Fish and Wildlife Service, or from the wetlands inventories maintained by the various States. The classification system presently contained in Circular No. 39 is being revised to provide uniformity in concept and terminology throughout the United States. A notice of intent to adopt the classification system was published in the December 12, 1977, FEDERAL REGISTER. Copies of the new classification system may be obtained from the Fish and Wildlife Service, Suite 217, Dade Building, 9620 Executive Center Drive, St. Petersburg, Fla. 33702.

The Fish and Wildlife Service is also developing a national wetlands inventory maps which will be complete in 1981. They will display typical wetland information on U.S. Geological Survey base maps for all of the States and U.S. territories and possessions. Maps are currently available to coastal Texas and Louisiana. On new projects, Fish and Service should be contacted to determined whether maps have been developed.

[FR Doc. 78-27723 Filed 9-28-78; 8:45 am]

Federal Register

FRIDAY, SEPTEMBER 29, 1978
PART VII

DEPARTMENT OF COMMERCE

Office of the Secretary

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NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM

Proposed Criteria for Accrediting Testing Laboratories That Test Thermal Insulation Materials

[3510-13]

DEPARTMENT OF COMMERCE

Office of the Secretary

NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM

Proposed Criteria for Accrediting Testing Laboratories That Test Thermal Insulation Materials

AGENCY: Assistant Secretary of Commerce for Science and Technology.

ACTION: Notice of proposed criteria to be used by the Department of Commerce for accrediting laboratories that test thermal insulation materials.

SUMMARY: Pursuant to the procedures for a National Voluntary Laboratory Accreditation Program (NVLAP) (15 CFR Part 7) this notice gives the text of the proposed general and specific criteria to be used by the Secretary of Commerce (Secretary) in accrediting testing laboratories that voluntarily request such accreditation. These proposed criteria are based on the recommendations of the National Laboratory Accreditation Criteria Committee for Thermal Insulation Materials (Committee) submitted to the Secretary on August 3, 1978. These recommendations were developed by the 21-member Committee during three meetings on May 22-23, June 29-30, and July 25-26, 1978. The procedure to be used by the National Bureau of Standards (NBS) in examining the laboratories requesting accreditation was described during these meetings. Although such procedure is not an integral part of the criteria, knowledge of it is pertinent to an understanding of the scope of the criteria.

The procedure for accrediting a testing laboratory testing thermal insulation materials will begin when the laboratory formally requests such accreditation of the Secretary. A detailed questionnaire, based on the final laboratory accreditation criteria, will then be sent to the laboratory for completion. The accreditation procedure will include three separate evaluations. First will be an evaluation of the completed written questionnaire submitted by the laboratory. When this evaluation is completed, an on-site visit by NVLAP inspectors will be arranged in which the information submitted will be verified and a comparison will be made between the laboratory's capabilities and the requirements of the test methods and the criteria. Finally, the laboratory will be required to participate in proficiency sample testing programs, and test data submitted to NBS upon completion of these programs will be evaluated. The decision to accredit a testing laboratory will be based upon all three of these evaluations.

The criteria proposed herein, as may be amended upon consideration of public comment, will form the basis for examination of the laboratory. Each criterion presented in this notice is followed by a note, summarizing the factors to be used in evaluating the laboratories. These notes are explanatory and are not part of the criterion. The substantive issues section in this notice describes some of the factors considered by the Committee in arriving at its recommendations.

This proposal substantively deviates from the Committee's recommendations in only five sections. In sections G2.1.4 and G3.2.3, the Secretary has broadened and added language to include consideration of how a laboratory handles all complaints, including complaints from the public, rather than just complaints from its clients. In sections G2.3 and S1.2, parenthetical material has been added to provide examples intended to clarify the meaning of those provisions. In section S2.2, material has been added to assure adequate concern for the accuracy of test equipment.

DATES: Written comments are due on or before November 13, 1978. A request for an informal public hearing may be made before October 16, 1978.

FOR FURTHER INFORMATION CONTACT:

Dr. Howard I. Forman, Deputy Assistant Secretary for Product Standards, Room 3876, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-3221.

SUPPLEMENTARY INFORMATION: In a notice published in the FEDERAL REGISTER on February 25, 1976 (41 FR 8163-8168), the Department of Commerce issued procedures (15 CFR Part 7) for the operation of a National Voluntary Laboratory Accreditation Program (NVLAP). As announced in that notice, the goal of the program is to provide a national voluntary system to examine, upon request, the professional and technical competence of private and public testing laboratories. The procedures guide the development of accreditation criteria, such as those proposed in this notice, for evaluating laboratories which serve regulatory and nonregulatory product evaluation and certification needs. As criteria are developed and issued, the Secretary will accredit those laboratories which meet the criteria. In the Department Organization Order 10-1, Amendment 1, dated June 4, 1976, the Secretary has delegated to the Assistant Secretary for Science and Technology (Assistant Secretary) the authorities to exercise the pertinent functions of the Secretary in carrying out NVLAP as described in the procedures.

Pursuant to the referenced procedures, the Thermal Insulation Manufacturers Association, Inc., Mount Kisco, N.Y.; the National Mineral Wool Insulation Association, Inc., Summit, N.J.; and the Cellulose insulation Manufacturers Association, Inc., Elk Grove Village, Ill., filed with the Secretary of Commere on December 1, 1976, a joint request that the Secretary find that there is a need to accredit testing laboratories which render services in the field of thermal insulation.

In a notice published in the FEDERAL REGISTER on October 12, 1977 (42 FR 55020-55023), the Department announced a final finding of need to accredit testing laboratories that test thermal insulation materials using the standards and test methods identified in the notice. In a separate notice published simultaneously in the FEDERAL REGISTER (42 FR 55023-24) the Department announced the formation of a National Laboratory Accreditation Criteria Committee (Committee) of 21 members to develop criteria to be used to evaluate those laboratories. Committee members were appointed in April 1978, met in May, June, and July for 2 days at each of the three sessions, and recommended criteria to the Assistant Secretary on August 3, 1978. Those recommendations provide the basis for this FEDERAL REGISTER Notice.

The Secretary will accredit a testing laboratory upon request, on the basis of an evaluation by NBS of the laboratory's ability to meet the provisions of the final criteria. The final criteria will be based on these proposed criteria with appropriate changes made after careful consideration and evaluation of all public comments received as a result of this notice. The final criteria published in the FEDERAL REGISTER will contain specific instructions for making application for accreditation by testing laboratories which test thermal insulation materials.

Upon receipt of a request for accreditation from a testing laboratory, the Assistant Secretary shall acknowledge the request and ask NBS to send an application package to the laboratory. This package will describe the accreditation program and will help the requesting laboratory select those portions of the program in which it specifically seeks accreditation. The application, when returned to NBS, will be used in assembling a questionnaire package, based upon the final criteria and the specific standards and test methods for which the laboratory desires accreditation. This questionnaire, tailored to the needs of the requesting laboratory, will elicit specific information about its qualifications and capabilities.

In completing the questionnaire for the test methods of interest, a labora-

tory may find that a duplication of information is needed in several portions of the questionnaire. Such duplication is not required. For instance, if information is contained in the response to the general criteria, identical information need not be supplied in response to the specific criteria. Likewise, information supplied in response to specific criteria for one test method need not be supplied in response to specific criteria for another test method if such information is identical.

Upon receipt of the completed questionnaire, NBS will evaluate the laboratory's ability to meet the criteria which apply to the areas in which the laboratory desires accreditation. In conducting this evaluation, the evaluators will reference specific detailed requirements for each of the test methods (e.g. test instruments required, reference documents cited, standardization equipment called for, and any special facilities called for) and will compare the data submitted by the laboratory with these requirements. A listing of these requirements as stated in each test method is now being developed and copies of the supplemental listing pertaining to each test method for which accreditation is sought will be supplied to the laboratory along with the questionnaire. Consultation with the laboratory will be arranged, if necessary, to complete the questionnaire.

Upon successful completion of this evaluation, NBS will then schedule an on-site visit by a NVLAP inspector whose inspection will include verification of the information submitted and comparison of the laboratory's capabilities and the requirements of the test methods and criteria. In conducting the inspection, the inspectors will reference specific detailed requirements for each of the test methods and each criterion and will compare the laboratory's capabilities with these requirements. A listing of these requirements as stated in each test method is now being developed and copies of inspector verification forms pertaining to each test method for which accreditation is sought will be supplied to the laboratory along with the questionnaire.

NBS will also schedule all required participation of the laboratory in proficiency testing programs as required. The questionnaire, inspector's report, and proficiency test data will then be evaluated by NBS and their recommendation concerning accreditation will be made to the Assistant Secretary. After review by the Assistant Secretary, accreditation will be granted or a letter denying accreditation will be sent to the laboratory.

To be accredited, the laboratory must also pay accreditation fees and charges. A schedule of estimated fees and charges the Department proposes to establish is published simultaneously in a separate notice in this FEDERAL REGISTER issue as required by the NVLAP procedures. These fees and charges are in amounts calculated to cover the costs of NVLAP examinations and are furnished at this time for information and guidance purposes only in order that the public may evaluate the proposed criteria in light of the expected fees to be charged for the assessment and accreditation of interested laboratories based upon those criteria.

To be accredited, the testing laboratory must agree to be examined and audited initially and on a continuing basis. During the deliberations of the Committee, an interval between examination for accreditation and reexamination for reaccreditation of 2 years was suggested as nominal based on the experience in other laboratory evaluation programs. The Committee has strongly recommended that testing laboratories be inspected on a yearly basis. The Department has carefully weighed this recommendation in light of the following factors: (a) inspection costs constitute a substantial portion of the total costs of examination and it is believed that annual inspection may increase the fee to unduly burdensome levels for a number of laboratories; (b) it is recognized that inspections may cause a significant (albeit temporary) disruption in the business of the laboratory and as such should be no more frequent than absolutely necessary; (c) other mechanisms exist by which to determine any deterioration in the competence of the laboratory between inspections; and (d) the Secretary reserves the right to call for inspections of laboratories at any time between regular inspections for the purpose of insuring continued compliance with the criteria. Until operating experience suggests a need to do otherwise, it is proposed to call for the regular examination (including inspection) of a laboratory at an interval of 2 years plus or minus 3 months. This tolerance of plus or minus 3 months is in recognition of practical problems of scheduling a series of inspections in different parts of the country. Public comments on this issue are encouraged.

Finally, to be accredited, the testing laboratory must avoid reference by itself and forbid others utilizing its services from referencing its accredited status in consumer media and product advertising, or on product labels, containers, or packages or the contents therein. This provision was included in the basic NVLAP procedures because the attributes of a product depend not only on whether the laboratory that tests it is accredited for that test method, but also on a number of other factors including the frequency of such tests, and the manner in which the manufacturer uses the test results to control the quality with which the product is manufactured. A laboratory may indicate on its letterhead and in professional, technical, and trade publications that it has been accredited by the Department to test products using a specific test method. Moreover, the Department will publish a list of accredited laboratories in the FEDERAL REGISTER so that the facts of such accreditation are available to users of testing laboratory services.

SUBSTANTIVE ISSUES

During the development of the criteria which were recommended to the Secretary by the Committee, a number of substantive issues were discussed in detail. These discussions are summarized in the following paragraphs in order to provide background information for the reader of this notice.

ORGANIZATIONAL STRUCTURE OF THE LABORATORY

Several members of the Committee strongly advocated that only independent laboratories be accredited. Such a provision is prohibited by the NVLAP procedures. (15 CFR 7.7(e)(1).) "No action will be taken or criteria developed that would prohibit the accreditation of a testing laboratory solely on the basis of that laboratory's association or nonassociation with manufacturing, distributing, or vending organizations * * *"). It was also pointed out that a definition of "independent" was itself subject to interpretation and challenge. (Is a laboratory truly independent if it performs 25 percent of its work for one client? 50 percent? What happens when a laboratory becomes part of a conglomerate organization?) There also seemed to be some confusion between laboratory accreditation and product certification. Accreditation of a laboratory means that the laboratory has the capability to conduct the specified tests appropriately. Certification of a product indicates that the product meets the requirements of a standard using designated product tests. NVLAP deals only with laboratory accreditation. NVLAP procedures specifically forbid reference to an accredited laboratory in product advertising, or in product labels, containers, and packaging or the contents therein, to avoid any inference of product certification.

The Committee explored the idea of requiring the names and resumes of all management and supervisory personnel in each operating, support, and service unit of the laboratory. To many members of the Committee this seemed like an excessive documenta-

tion burden—particularly for some of the larger laboratories. This was particularly so when considering section G4.1 of the criteria which requires an update of such information within 30 days of the occurrence of any substantive changes in the laboratory related to these criteria. The Committee voted to accept an amendment which calls for the names and resumes or the personnel requirements only for the positions identified. However, the Department believes that it may be necessary to know the names and actual qualifications of the persons filling key positions since, if a key person should leave a laboratory and not be replaced by another qualified person, the continued capability of the laboratory could be in serious doubt. Some people who choose a NVLAP accredited laboratory may do so because of its accreditation by the Department. Any material change in a basis for the accredited status must be evaluated by the Department promptly so that if that status deserves to be changed, the public may be notified of that fact in timely fashion. In order to meet the Committee's concern regarding paperwork, yet provide what could be critical information, it may be appropriate to require names and resumes (which need not exceed one page) of individuals that are key to the operation of a testing laboratory (e.g., the laboratory director or manager and those key supervisors in the area for which accreditation is sought). Public comments on this issue are encouraged.

The committee rejected a proposed criterion which would have required a laboratory to describe its sources and manner of financial support or other evidence of financial stablity. Proponents of this provision argued that such a provision was needed to evaluate a laboratory's ability to develop and manage testing programs on a continuing basis. One member of the committee so strongly favored this provision that he submitted a minority comment to the Secretary with the final recommeded criteria stating, that in his opinion, there would be a high risk that a labortory in an unstable financial condition might not maintain quality performance in its laboratory practices. Opponents of this position argued that it would be very unfair to new and developing laboratories, and almost impossible to evaluate appropriately. Also to be considered is the provision in the NVLAP procedures (15 CFR 7.7(e)(5)) that the Secretary will not ask for or accept confidential business data, trade secrets, or other proprietary information.

PROFESSIONAL AND ETHICAL BUSINESS PRACTICES

Under this heading, the committee discussed factors including: the handling of complaints; protection of test data, records and reports; and limitation of work in accordance with demonstrated capacities and competences. The issues of independence arose again and was resolved by requiring the laboratory to supply evidence that there is an independent decisional relationship between the testing laboratory function and other functions of the company or from other organization with which the laboratory does business.

The only area of substantial deviation from the criteria recommeded by the committee is in the area of complaint handling. The department is of the view that it is vitally important for the laboratory to handle appropriately all complaints. In order to accomplish this, a new section, G2.1.4, was added to criterion G2 dealing with the quality control system. This section would require that the laboratory describe its procedures for obtaining, tracing the validity of, and responding to complaints and charges about the quality of test work. To further support this important point, the committee's recommendation for section 3.2.3 of criterion G3 dealing with professional and business practices was modified by deleting the words "from clients." In effect, this deletion broadens that provision and requires documentary evidence that the laboratory considers and properly handles all appeals and complaints, irrespective of whether such complaints come from clients or the public.

The Committee considered requiring that the laboratory provide complete details of any litigation in which an applicant laboratory may have been involved over the past 5 years. A majority of the Committee agreed to delete such a requirement on the basis that: (1) in an ongoing suit a laboratory should be judged free of wrongdoing until shown otherwise, as required by our system of jurisprudence; (2) if a laboratory has been found guilty, or a judgment entered against it for wrongdoing, presumably it will be forced to pay for its mistakes as a result; and (3) the volume of paperwork could be enormous. Committee members favoring such a provision suggested that it would be inappropriate to accredit a laboratory which has a number of adverse judgments against it. The Department believes that conditions which lead to such litigation are likely to show up during the evaluation. In any event, the Secretary is prepared to followup on complaints received from the public about any laboratory accredited or about to be accredited.

NOTIFICATION OF CHANGES.

The Committee agreed after some discussion that the laboratory should notify NVLAP of substantive changes in the laboratory related to the criteria requirements on a timely basis, even though for a large facility this could involve substantial paperwork.

The NVLAP program is designed to adapt to changes in the cited standards and test methods as they are approved ability to designate some other effective date if deemed necessary.

LABORATORY FACILITIES AND EQUIPMENT.

Some test methods define required facilities, equipment, and special features very explicitly while other test methods do not. In some test methods, equipment has to be fabricated and constructed on site using general design guidance. The degree of conformance of the facilities and equipment to the requirements of the test methods is also a significant issue. In its deliberations, the Committee stressed the need to relate facilities and equipment to calibration and verification requirements to assure accurate and precise data.

A major discussion centered on the use of equipment, facilities, or procedures which have received modifications that keep them from being in strict conformance to the test method but which are judged to be noncritical modifications. Some Committee members encouraged such modifications, arguing that improvements which reduce costs or improve accuracy of measurements should be allowed and perhaps openly encouraged. The Department supports this goal, and therefore modified criterion S2.2 to encourage concern that equipment provide requisite accuracy and precision.

During the discussion of improvements and modifications some Committee members indicated a need to retain the pure methodology of the test method. The Committee therefore recommended the allowance of noncritical modifications provided the testing laboratory which is being accredited demonstrates appropriately through comparative analysis that such modifications do not degrade the precision or accuracy of the data obtained in using the test method.

In reviewing this recommendation, the Department concluded that criterion S2 might not provide necessary encouragement to modernization especially on new tests and methods undergoing significant development. The Department notes that criterion S1 encourages attention to training of personnel to assure continuous proficiency. The question of whether similar encouragement is needed on the currency of equipment with advances in technology remains open. Such encouragement could be added in an additional subsection dealing with and calling for a review of the laboratories' efforts to maintain knowledge of ad-

vancing technology through such means as professional literature, trade and professional meetings, seminars, and professional education, etc. Public comments on these issues are invited.

The Committee also addressed issues associated with the use of subcontractors. It was agreed that in many cases it is not uncommon for even the most accomplished laboratories to employ specialists to perform some specific functions such as preparation of samples, preliminary assessments, or computer and statistical analysis. It was agreed that only a testing laboratory having the measuring facilities and equipment to produce the final test values could be accredited for the test for which accreditation is sought. When subcontracting is performed to obtain test specimens or intermediate values, the testing laboratory producing the final test values would be responsible for the work of the subcontractor. Subcontractors need not be accredited for the test method or for that portion of the test method they conduct in order for accreditation to be granted to the primary testing laboratory.

The Proposed Criteria

Compliance by testing laboratories with these general and specific criteria and accreditation of a laboratory by the Secretary shall in no way relieve such laboratory from the necessity of observing and being in compliance with existing Federal, State and local statues, ordinances, and regulations that may be applicable to the operation of such laboratory, including consumer protection and anti-trust laws.

GENERAL CRITERIA

For initial accreditation or continued accreditation, an applicant laboratory shall provide the information listed below for the general product and testing areas for which accreditation is sought.

A single or double asterik preceding a section number identifies section to be included in quality control procedures as explained in section G2.6.

Criterion G1. *The laboratory has an organizational structure that enables it to develop and maintain a testing capability to perform satisfactorily the functions for which accreditation is sought.*

G1.1 A description of the laboratory's organization, including:

*G1.1.1 The complete legal name and address of the main office, or parent company if part of a larger organization;

*G1.1.2 The name and location of the laboratory if different from that stated in G1.1.1;

G1.1.3 A general description of the laboratory, including its equipment and facilities;

G1.1.4 The laboratory's and parent company's principal ownership and management structure, including the names and positions of the principal officers and board of directors;

*G1.1.5 An outline or chart showing the titles or positions of all key management and supervisory personnel in each operating, support, and service unit in the laboratory's functional organization, and their reporting relationships relative to this accreditation request;

**G1.1.6 The names and resumes of the individuals assigned to each of the positions identified in G1.1.5 or the personnel requirements for the individuals occupying those positions.

G1.2 A listing of the relevant technical services performed.

*G1.3 A list of test method standards for which accreditation is sought, showing the approximate number of times each test is performed per year.

NOTE.—This criterion and its sections require a relatively straightforward description of the testing laboratory. The examiner will review data supplied by the laboratory in response to this criterion for appropriate definition of authority and responsibility, for the personnel qualifications, and for consistency between services offered and personnel and facilities available. The inspector will verify data on the facility and organization, and personnel, and conduct appropriately related examinations:

Criterion G2. *The laboratory has and maintains a quality control system to assure the technical integrity of its work.*

**G2.1 A description of the laboratory's system for auditing and monitoring its test work, including procedures for:

G2.1.1 Preventing or reducing testing errors and discrepancies;

G2.1.2 Identifying and correcting known errors and discrepancies;

G2.1.3 Specifying the frequency and the sample size (quantity) of the audit sampling of the test results of testing personnel.

G2.1.4 Obtaining, tracing the validity of, and responding to complaints and charges about the quality of test work.

**G2.2 A description of the laboratory's system for insuring that all test equipment and reference standards are calibrated or verified to the requisite degree of accuracy, including procedures for:

G2.2.1 Maintaining written descriptions of the standardization (calibration and verification) procedures for all test equipment and reference standards;

G2.2.2 Maintaining standardization records, including:

(a) Equipment description or name,

(b) Name of manufacturer,

(c) Model, style, and serial number or other identification,

(d) Equipment variables subject to standardization,

(e) Range of operation and range of standardization,

(f) Resolution of the instrument and allowable error tolerances on readings,

(g) Standardization schedule (intervals),

(h) Date and result of last standardization and date of next standardization,

(i) Name of laboratory person or standardization service providing the above standardization,

(j) Traceability to NBS or other authority as required;

G2.2.3 Insuring that all test equipment is recalled periodically for verification and/or recalibration.

**G2.3 A description of the laboratory's system for assuring that all equipment and facilities are properly maintained (e.g., routine operational checks and upkeep, maintenance of instructions for equipment operation and repair, power sources, electricity, and gases).

**G2.4 A description of the laboratory's system for controlling the flow of work, including procedures for at least the following:

G2.4.1 Specifying work flowfrom reception to reporting;

G2.4.2 Specifying the functions to be performed at each step along the workflow path;

G2.4.3 Data recording, processing and reporting;

G2.4.4 Selecting specimens for testing;

G2.4.5 Retention or disposal of specimens tested.

**G2.5 A description of the laboratory's system for maintaining records, including records of:

G2.5.1 Test reports;

G2.5.2 Data generated during testing;

G2.5.3 Receiving, shipping and disposal of test samples;

G2.5.4 Current regulations, test standards and specifications;

G2.5.5 Personnel (including training);

G2.5.6 Appeals actions contesting results.

G2.6. A copy of the laboratory's quality control manual or procedures which should:

G2.6.1 Explicitly include the information required by the single starred (*) sections of these general and specific criteria;

G2.6.2 Clearly state where in the laboratory this information is maintained or explicitly include the information required by the double starred (**) sections of these general and specific criteria.

*G2.6.3 Explicitly include the procedures to be followed for maintaining the manual current and the name or title of the person responsible for implementing those procedures.

NOTE.—In assessing a laboratory's capability to meet this criterion, the examiners, based on data submitted by the laboratory, will be making judgments about the adequacy of the test auditing and monitoring program of the laboratory, about the adequacy of the laboratory's calibration system, about the appropriateness of the laboratory's equipment and facility maintenance, about the laboratory's system for controlling the flow of work, and about the laboratory's system for maintaining records. The inspector will verify the data supplied and examine the laboratory for related information.

The laboratory's quality control system must be documented, by a quality control manual or written procedures. The purpose of the manual is to provide, in one convenient location, detailed descriptions, or clear instructions where such descriptions may be found, of the operating and quality assurance procedures governing the human and material resources of the laboratory. The manual must be available at all times to serve as a guide for the laboratory staff, and procedures must exist for maintaining and periodically updating it. It is subject to review during on-site laboratory inspections by NVLAP personnel. An example of how such a manual might be structured is presented in the American Council of Independent Laboratories (ACIL) publication, *Quality Control, Requirements for a Testing and Inspection Laboratory, Manual of Practice—1976.* As a minimum, the manual should be structured in accordance with sections G2.6.1, G2.6.2, and G2.6.3 above.

Criterion G3. *The laboratory is operated in accordance with generally accepted professional and ethical business practices.*

G3.1 The laboratory has a stated and effective policy which assures that reported values accurately reflect all properly measured data.

G3.2 Documentary evidence assuring that:

G3.2.1 Test work is limited to that for which competence and capacity are available;

G3.2.2 Test data, records, and reports are treated as proprietary information and are released only to such other individuals as the client agrees to in writing;

G3.2.3 Appeals and complaints contesting test results are considered and properly handled.

G.3.3 For a laboratory that is part of a larger organization, dependent on manufacturing or supplier interest: evidence that there is an independent decisional relationship between the testing and other components of the organization. (This may be demonstrated, for example, by a letter of authority from the parent organization management.)

G3.4 For a private laboratory that is not part of a larger manufacturing or supplier organization: Evidence that there is an independent decisional relationship between the laboratory and other organizations, including clients (e.g., a policy declaration or a contract provision that the laboratory's relationship with these organizations are not allowed to affect the laboratory's capacity to render reports of findings objectively and without bias).

NOTE.—The examiners will review data supplied by the laboratory and compare them with other data provided under criteria G1 and G2 to evaluate compliance with this criterion. Particular attention will be paid under this criterion relative to complaints received about the laboratory by the Assistant Secretary. The inspectors will verify data provided and explore with the laboratory personnel individual complaints which may have arisen.

Criterion G4. *During the processing of the application and following accreditation, the laboratory reports to NBS, within specified times, any substantive changes in the laboratory related to the general and specific criteria, and documents these changes as per the original submission.*

G4.1 A description of the change mailed within 30 days following a substantive change relative to the general and specific criteria.

G4.2 Implementation within 45 days of the effective or "official notice" date, whichever is later, of all changes necessitated by a revision in the standard test method, unless another date is established by notice from NBS. (The "official notice" date is the date the organization responsible for the standard test method gives notice in its official publication that the standard has been revised. In some cases the organization may indicate a later "effective" date.)

NOTE.—The examiners will evaluate changes as they may affect other aspects of the criterion and the inspectors will report absence of unreported substantive changes.

SPECIFIC CRITERIA

For *each standard test method* for which accreditation or continued accreditation is sought, an applicatant laboratory shall provide the information required.

Criterion S1. *The laboratory is staffed with trained and experienced personnel competent in the principles and practices of measurement in the area of testing for which accreditation is sought.*

**S1.1 A list of, or the requirements of, the personnel responsible for and capable of conducting the tests specified in the test method, if not specifically addressed in the response to section G1.1.6 of the general criteria.

**S1.2 A description of the specific training program to assure proficiency and uniformity in applying the test method to the requisite degree of accuracy and precision (e.g., methods for ensuring job competence, probationary periods under close supervision, audits of test work performed, and performance reviews with affected personnel).

NOTE.—For each test method for which a laboratory requests accreditation, the examiner will evaluate the competence of the personnel function and the training function. Of concern also would be how personnel newly trained moved into the work force, the nature of periodic reviews of competence, and the kinds of continuous education programs available. The inspector would verify the content and utilization of training programs and as a result of observations made to assess compliance with other specific criteria, would attest to the competence of the personnel.

Criterion S2. *The laboratory's facilities and equipment are appropriate to the functions for which accreditation is sought and are properly maintained.*

**S2.1 A description of the test setups and a list of test instruments used, sufficiently identified to allow correlation with the calibration information requested in criterion S3. (Provide diagrams and photographs, if helpful in demonstrating conformance with the test requirements.)

**S2.2 A description of all special or laboratory-fabricated equipment listed in section S2.1, and evidence that this equipment conforms to the requirements of the test method and assures requisite accuracy and precision. (Provide schematics or shop drawings with annotated photographs, if helpful in demonstrating conformance with the test requirements.)

**S2.3 A description of any auxiliary equipment, facilities, or procedures required by or used for the test method, such as: storage and conditioning of samples; environmental conditions or controls (including how compliance is measured and percentage of time within required limits); automatic data collection, reduction or analysis; housekeeping, safety and custodial care; maintenance of laboratory equipment and facilities.

**S2.4 An inventory of the laboratory's collection of applicable standards and other documents referred to or used for the test method.

**S2.5 Evidence by analytical or other means that the test results are not degraded by the use of equipment or facilities which have received non-critical modifications not in strict conformance with the standard method of test.

NOTE.—For this criterion, the examiner would evaluate the set-ups, instrumentation, special equipment, facilities, etc. of the laboratory as compared to the requirements

of each test method for which accreditation is sought. Evidence would be evaluated to confirm that non-critical modifications have not degraded the test results. The inspector would explore evidence justifying claims made by the laboratory during his visit to the laboratory by comparing selected measurements with the requirement of the test methods.

Criterion S3. *The laboratory's equipment and procedures are standardized (calibrated and verified) periodically.*

**S3.1 A description of the standardization equipment (including diagrams, etc., as appropriate) and a listing of the standardization schedule to ensure continuing adequate performance and accuracy of results.

**S3.2 Either references to recognized standardization procedures or descriptions of standardization procedures used for each laboratory standard and test instrument to assure that all measurements can be made to the requisite precision and accuracy.

**S3.3 A listing of the reference standards and materials being used with the test method, including:

S3.3.1 The source, the identify and latest dates and results of the standardization of the reference standards and materials;

S3.3.2 For other than specifically required standards and standard reference materials, the procedures used to reference the standards to national standards;

S3.3.3 Clear identification and differentiation between reference and working standards.

**S3.4 A listing of the measurement assurance, collaborative reference or other program(s), appropriate to the test method, in which the laboratory participates.

NOTE.—This criterion relates to the laboratory's fundamental program for establishing and maintaining basic references upon which its testing program is built. In some cases, much of the standardization procedures required herein will be part of an overall computerized laboratory program. In other cases, such standardization will be accomplished on a test method by test method basis. The examiners and inspectors will be responsive to evaluation and verification in either case.

Criterion S4. *The laboratory maintains documented and acceptable in-house operating protocols for the test method to assure the requisite degree of accuracy and precision.*

**S4.1 A copy of the in-house instructions, if any, supplementing the instructions of the standard test method, including those necessary for equipment maintenance and calibration checks, sample preparation, testing and disposal, data reduction, and reporting of test results.

**S4.2 A copy of the instructions to the subcontractor, and a description of how the laboratory assures the required precision and accuracy for any highly specialized part of the test method which is subcontracted.

NOTE.—Only that laboratory having the measuring equipment by which final test values are obtained can be accredited.

**S4.3 Evidence by analytical or other means that the use of non-critical variations in the procedure from that specified in the standard test method does not degrade the results of the test.

**S4.4 Evidence demonstrating the capability of satisfactorily complying with the intent of the standard test method when any variation in test equipment or procedures is made necessary by environmental conditions or by special requirements of a product for which accreditation is sought.

**S4.5 A sample test report (with name of client deleted) showing test results accompanied by the raw data and a copy of the worksheet showing the steps to reduce the raw data and the method of data reduction or reference to approprate "calculation" sections of the test protocol or standard.

NOTE.—This criterion deals with the fundamental ability of the laboratory to obtain test results to the required precision and accuracy of the test methods. When reviewing data submitted by the laboratory, the examiner's emphasis will be placed upon evaluation of instructions and procedures for the staff of the laboratory and for any subcontracted segments of the work. The applicability of nonconforming test procedures will also be carefully evaluated. A sample report will be reviewed and the inspectors will look for evidence that such sample reports are typical rather than specially produced for the accreditation program.

REQUEST FOR COMMENTS

Interested persons desiring to comment on the proposed criteria set out above are invited to submit such comments, in four copies, on or before November 13, 1978, to the Assistant Secretary for Science and Technology, Department of Commerce, Room 3864, Main Commerce Building, Washington, D.C. 20230.

Any person desiring to express his or her views in an informal hearing relative to the mentioned proposed criteria shall do so by communicating that desire in writing on or before October 16, 1978, to the Assistant Secretary for Science and Technology at the address shown in the preceding paragraph. Upon receipt of such request, informal public hearings will be held so as to give all interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to the opportunity to make written submissions. If deemed appropriate, such hearings may be held at two locations, one of which shall be east of the Mississippi River and the other west thereof. Notice of such hearings will be published in the FEDERAL REGISTER at least twenty (20) days in advance thereof. A transcript will be made of any oral presentation.

PROCEDURE FOLLOWING RECEIPT OF COMMENTS

Upon receipt of all written and oral comments, the Criteria Committee will be requested to conduct and return to the Assistant Secretary, within a specified time, its evaluation and recommendations with respect to such comments. After considering the Criteria Committee's evaluation and recommendations, the Assistant Secretary will prepare his evaluation and publish in the FEDERAL REGISTER a notice:

(1) Announcing the final general and specific criteria that testing laboratories must meet in order to be accredited and the date when such final criteria shall go into effect which shall not be less than thirty (30) days after the date of publication of such notice;

(2) Stating that the proposed general and specific criteria will be further developed before final publication; or

(3) Withdrawing the proposed general and specific criteria from further consideration.

RELATED INFORMATION

A list of test methods which will be included in this program, along with a statement of the requisite precision and accuracy of each method and an indication of the requisite reference programs is set out in appendix 1. Further research may require that the values for the requisite precision and accuracy or participation in requisite reference programs change during the course of the program. When such changes are developed, they will be published and made effective immediately on publication. Specific information on each test method will be supplied in the questionnaire booklet to a laboratory requesting accreditation.

Although the data presented in appendix 1 are considered part of the operational material of the program and are not part of the criteria, comments from the public are nonetheless solicited at this time, especially as related to the requisite precision and accuracy of those data.

All written and oral comments and testimony that are furnished in response to the invitation made by this notice will be made part of the public record and will be available for inspection and copying in the Department's Central Reference and Records Inspection Facility, Room 5317, Main Commerce Building, 14th Street between E Street and Constitution Avenue NW., Washington, D.C. 20230.

Dated: September 26, 1978.

JORDAN J. BARUCH,
Assistant Secretary for Science and Technology.

APPENDIX 1. U.S. DEPARTMENT OF COMMERCE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)

PROPOSED CRITERIA AND COMPLIANCE INFORMATION SUPPLEMENT FOR THERMAL INSULATION MATERIALS

This table establishes the performance requirements for the initial and continued accreditation of laboratories that test thermal insulation materials. It also specifies the available reference and related programs that help assure that performance.

The performance requirements are specified in terms of the requisite precision and accuracy in applying the test method; that is, the overall precision and accuracy of application involving such potential sources of error as test operator, test environment, test equipment, test protocol and test sample. The capability of a laboratory to perform to these overall requirements is judged from the written information it submits in response to the examination material and from the findings of the on-site inspection. The ability of the laboratory to apply this capability is determined from the results of its performance in a proficiency testing program.

Precision is expressed in terms of repeatability (R) and comparability (C). Repeatability is a measure of the ability of a laboratory to repeat its own test result on the same or essentially identical samples. Comparability is a measure of the ability of a laboratory to compare two materials (intended for the same use), obtaining comparative test results (e.g. difference between or ratio of the two test results) consistent with comparisons obtained by other laboratories. Accuracy (A), is a measure of the ability of a laboratory to obtain a test result in agreement with the "true" or target test result.

The limits specified in the table for precision and accuracy are for "good" performance. Approximately 95 percent of the laboratories should be able to achieve this. Limits approximately 50 percent wider are used to define "acceptable" performance for accreditation purposes. CAUTION: The limits presented in this table for laboratory accreditation purposes should not be interpreted as setting specification limits on products.

In addition to utilizing or participating in the requisite reference programs listed below for each test method, each laboratory should maintain a uniform batch of test specimens for more frequent checks of its performance (or should use other means for this purpose). The sources for the requisite reference programs are listed at the end of the table. The table shows those programs currently available. As other programs become available, especially for methods not now covered, and are determined to be desirable for NVLAP, they will be added to the table.

NVLAP Code Test Method No.	Complexity	Short title (property) subtitle (if applicable)	Requisite precision and accuracy	Requisite reference program(s)
01/D01—ASTM C136	B_1[1]	Sieve or screen analysis	R=4 pct aggregate—A=4.4 pct aggregate.	SRM's 1017a,[2] 1018a, 1019a or NBS sieve verification service.[2]
01/D02—ASTM C167	B_1	Thickness and density; blanket and batt	Thickness: A=1/16 in. (1.0 mm). Density: A=2 pct.	
01/D03—ASTM C209 (par. 6 in 72 version).	B_1	Thickness; board (cellulosic fiber)	A=0.1 mm	
01/D04—ASTM C209 (par. 13 in 72 version).	B_1	Water absorption, 2 h; board (cellulosic fiber).	A=25 pct water absorption	TIM CRP.[4,5]
01/D05—ASTM C209 by D1037 (par. 100-106 in 72 version).	B_1	Water absorption, 24 h; board (cellulosic fiber).	do	TIM CRP.[5]
01/D06—ASTM C209 by D1037 (par. 107-110 in 72 version).	B_2	Linear expansion; board (cellulosic fiber)	A=0.1 pct expansion	
01/D07—ASTM C272	B_1	Water absorption; core materials	A=25 pct water absorption	TIM CRP.[5]
01/D08—ASTM C302	B_1	Density; preformed pipe insulation	Thickness: A=1 mm. Density A=2 pct.	
01/D09—ASTM C303	B_1	Density; preformed block insulation	A=2 pct	
01/D10—ASTM C355	B_2	Water vapor transmission; thick materials; desiccant method.	A=25 pct	TIM CRP.
01/D11—ASTM C356	B_1	Linear shrinkage; soaking heat; preformed high temperature insulation.	R=0.5 pct linear shrinkage; A=0.5 pct linear shrinkage.	
01/D12—ASTM C411	B_1	Hot-surface performance; high temperature insulation.	Warpage: A=1 mm	
01/D13—ASTM C519	B_2	Density; loose-fill (fibrous)	A=2 pct	
01/D14—ASTM C520	B_2	Density; granular loose-fill	A=2 pct	
01/D15—ASTM D756	B_2	Weight and shape changes; accelerate service (proc. A); plastics.	A=0.5 pct weight change; A=0.5 pct linear dimension change; A=1.5 pct volume change.	
01/D16—ASTM D756	B_2	Weight and shape changes; accelerated service (proc. B); plastics.	Same as for 01/D15	
01/D17—ASTM D756	B_2	Weight and shape changes; accelerated service (proc. E); plastics.	do	
01/D18—ASTM D162	B_2	Apparent density; rigid cellular plastics	A=4 pct	
01/D19—ASTM D2126	B_2	Response to thermal and humid; aging (proc. B); rigid cellular plastics.	A=0.5 pct weight change; A=0.5 pct linear dimension change.	
01/D20—ASTM D2126	B_2	Response to thermal and humid; aging (proc. D); rigid cellular plastics.	Same as 01/D19	
01/D21—ASTM D2126	B_2	Response to thermal and humid; aging (proc. E); rigid cellular plastics.	do	
01/D22—ASTM D2126	B_2	Response to thermal and humid; aging (proc. F); rigid cellular plastics.	do	
01/D23—ASTM D2842	B_2	Water absorption; rigid cellular plastics	A=1.0 pct absorption (by volume).	TIM CRP.
01/F01—ASTM D777 as modified by Federal specification H-H-B-100B.	B_1	Flammability; paper and paperboard	Char length: R=3.6 pct, A=9.0 pct; fire resistance permanence: R=6 pct increase in char length, A=10 pct increase in char length.	
01/F02—ASTM E84	B_2	Surface burning characteristics; building materials; loose-fill.	Flame spread classification: A=20 pct; smoke classification: A=40 pct.	TIM CRP.
01/F03—ASTM E84	B_2	Surface burning characteristics; building materials; blanket and batt.	Same as 01/F02	TIM CRP.
01/F04—ASTM E84	B_2	Surface burning characteristics; building materials; board and block.	do	TIM CRP.
01/F05—ASTM E136	B_1	Noncombustibility; elementary materials	Primarily a nonquantitative test.	

NVLAP Code Test Method No.	Complexity	Short title (property) subtitle (if applicable)	Requisite precision and accuracy Requisite reference program(s)	
01/S01—ASTM C165	B_2	Compressive properties; thermal insulation; proc. A.	A=4 pct	TIM CRP,[9] [7] TMVS.
01/S02—ASTM C203	B_2	Breaking load/flexural strength; preformed block insulation.	Breaking load: A=2 pct; flexural strength: A=10 pct.	TIM CRP,[7] TMVS.
01/S03—ASTM C209 (par. 9 in 72 version).	B_2	Transverse strength; board (cellulosic fiber).	A=4 pct	TIM CRP,[7] TMVS.
01/S04—ASTM C209 (par. 10 in 72 version).	B_2	Deflection at specified load; board (cellulosic fiber).	A=0.2 mm	See 01/S03.
01/S05—ASTM C209 (par. 11 in 72 version).	B_2	Tensile strength; parallel to surface; board (cellulosic fiber).	A=15 pct	TIM CRP,[7] TMVS.
01/S06—ASTM C209 (par. 12 in 72 version).	B_2	Tensile strength; perpendicular to surface; board (cellulosic fiber).	A=4 pct	TIM CRP,[7] TMVS.
01/S07—ASTM C273	B_2	Shear test; sandwich construction	A=25 pct	TIM CRP,[7] TMVS.
01/S08—ASTM C446	B_2	Breaking load/modulus of rupture; preformed pipe insulation.	Breaking load: A=2 pct; modulus of rupture: A=5 pct.	TIM CRP,[7] TMVS.
01/S09—ASTM D781	B_2	Puncture test; paperboard and fiberboard.	R=7.3 pct; A=8 pct	
01/S10—ASTM D828	B_2	Tensile breaking strength; paper and paperboard.	R=5 pct; C=9 pct; A=11 pct	TAPPI CRP or TIM CRP.[7] [8]
01/S11—ASTM D1621	B_2	Compressive properties; rigid cellular plastics; proc. A—Crosshead.	A=6 pct	TIM CRP,[7] TMVS.
01/T01—ASTM C177	B_2	Thermal transmission properties; low-temperature guarded hot plate; loose-fill.	R=1 pct; A=4 pct	SRM 1450,[10] TIM CRP.
01/T02—ASTM C177	B_2	Thermal transmission properties; low-temperature guarded hot plate; compressible blanket and batt.	do	SRM 1450,[10] TIM CRP.
01/T03—ASTM C177	B_2	Thermal transmission properties; low-temperature guarded hot plate; rigid board and block.	do	SRM 1450,[10] TIM CRP.
01/T04—ASTM C236	B_2	Thermal conductance; guarded hot box	A=4 pct	TIM CRP.[11]
01/T05—ASTM C335	B_2	Thermal conductivity; pipe insulation	do	TIM CRP.
01/T06—ASTM C518	B_2	Thermal transmission properties; heat flow meter; blanket and batt.	R=1 pct; A=4 pct	SRM 1450,[12] TIM CRP.
01/T07—ASTM C518	B_2	Thermal transmission properties; heat flow meter, board.	do	SRM 1450,[12] TIM CRP.
01/T08—ASTM C518	B_2	Thermal transmission properties; heat flow meter; loose-fill.	do	SRM 1450,[13] TIM CRP.
01/T09[14]—ASTM C653	B_2	Thermal resistance (rec. practice); blanket (mineral fiber).	See 01/T02 and 01/T06	See 01/T02 and 01/T06.
01/T10[14]—ASTM C687	B_2	Thermal resistance (rec. practice); loose-fill (fibrous).	See 01/T01, 01/T04, and 01/T08	See 01/T01, 01/T04 and 01/T08.
01/V01—ASTM C445	B_2	Emittance of surfaces	A=0.02 emittance or 10 pct, whichever is higher.	
01/V02—ASTM D591	B_2	Starch in paper; qualitative test	Nonquantitative test	
01/V03—ASTM D2020	B_2	Mildew (fungus) resistance; paper and paperboard.	do	
01/V04—ASTM E96	B_2	Water vapor transmission—thin sheets—proc. A.	R=19 pct—A=25 pct	SRM 707-1.

[1] The letter B followed by a numerical subscript 1, 2, or 3 indicates the complexity of the test method for examination purposes. Subscript 1 indicates relatively simple test methods, subscript 2 indicates moderate test methods and subscript 3 indicates complex text methods.

[2] SRM—Standard reference materials may be obtained from the National Bureau of Standards. Ordering information may be obtained from the Office of Standard Reference Materials, B311 Chemistry Bldg., National Bureau of Standards, Washington, D.C. 20234 (telephone 301-921-2045).

[3] NBS sieve verification service—Information may be obtained from the Dimensional Metrology Section, B104 Metrology Bldg., National Bureau of Standards, Washington, D.C. 20234 (J. Beers, telephone 301-921-2216).

[4] TIM CRP—Collaborative reference program on thermal insulation materials sponsored by the Collaborative Testing Services, Inc. Information may be obtained from NBS Collaborative Reference Programs, B360 Polymer Bldg., National Bureau of Standards, Washington, D.C. 20234 (telephone 301-921-2946).

[5] Laboratory need be in only one CRP of D04, D05 and D07.

[6] TMVS—Testing machine verification service is obtainable from a number of sources. Specify verification to ASTM Standard E4. Most manufacturers of testing machines can provide information on sources of verification service.

[7] Participation in CRP for S01 and S02 is required for accreditation for S01 through S08 and S11, and in either TAPPI CRP or TIM CRP for S01 and S02 for accreditation for S10.

[8] Eligible for accreditation only if accredited for 01/S03.

[9] TAPPI CRP—Collaborative reference program sponsored by the Technical Association of the Pulp & Paper Industry. Information may be obtained from NBS Collaborative Reference Programs, B360 Polymer Bldg., National Bureau of Standards, Washington, D.C. 20234 (telephone 301-921-2946).

[10] Participation in T02 CRP required for C177 accreditation for any material. In addition, T01 or T02 participation required for accreditation for indicated materials.

[11] Not required if in T02.

[12] Not required if in T03.

[13] Not required if in T01.

[14] Eligible for accreditation only if laboratory is accredited for C177, C236 or C518 for same class of materials.

[FR Doc. 78-27498 Filed 9-28-78; 8:45 am]

[3510-13]

NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM

Estimated Fees and Charges To Accredit Laboratories Which Test Thermal Insulation Materials

In a separate notice appearing in this issue of the FEDERAL REGISTER, the Department of Commerce announced the issuance of proposed criteria for accrediting testing laboratories which test thermal insulation materials. Pursuant to paragraph (a) of section 7.10 of the procedures for a national voluntary laboratory accreditation program (15 CFR Part 7) notice is hereby given of the estimated fees and charges which the Secretary of Commerce (Secretary) proposes to establish for this laboratory accreditation program (LAP). The proposed schedule of estimated fees and charges is furnished for informational and guidance purposes so the public may evaluate the proposed criteria in light of the expected fees to be charged.

The estimated fees and charges are in amounts calculated to cover the cost of examining, accrediting, and auditing laboratories that test thermal insulation materials. The cost associated with developing this LAP has not been included. The estimated fees and charges are intended to pay for the evaluation of information supplied by the laboratory in response to a questionnaire, for onsite inspection of the laboratory facilities, and for the participation of the laboratory in proficiency sample testing programs.

Basis for estimates. These fees and charges are based on the assumption that each laboratory that tests thermal insulation materials will be evaluated every 2 years (plus or minus 3 months), and that approximately one-third of such laboratories will undergo one unannounced reinspection during this period. The bulk of the costs will accrue during the first year of accreditation when each of the laboratories is visited and examined. However, these costs would be spread over a 2-year period so that fees would be charged annually and accreditation (or reaccreditation) would be issued annually. This accreditation procedure would insure a specific review of proficiency sample test results from each laboratory on a scheduled basis and would be a basis for identifying those laboratories which would be subject to the unannounced reinspection.

It is unlikely that any one laboratory will seek accreditation for all 53 test methods which are included in this LAP. Therefore, the fees and charges are of necessity flexible, allowing the total charges to vary with the number and complexity of the individual test methods selected by the laboratory.

Estimated fees and charges. The first element of the estimated fee is composed of a fixed charge to cover personnel costs incurred in the examination of the laboratory to meet the general criteria and basic travel cost of the inspector to the laboratory. To the fixed charge will be added a charge which varies depending upon the number and level(s) of complexity of the test method(s) selected. The fee to any laboratory will be determined by the following equation:

$$F=A+B_1(N_1)+B_2(N_2)+B_3(N_3)$$

where F is the fee in dollars, A is the fixed charge in dollars, B is the variable charge in dollars and N is the number of test methods for which the laboratory requests accreditation. Subscripts 1, 2, and 3 represent the three levels of complexity into which the test methods fall when considered for examination purposes. The fee for the simpler test methods is represented as B_1. N_1 is the number of such test methods. Test methods of intermediate complexity are represented by B_2 and N_2 in the equation, and the most complex test methods are represented by B_3 and N_3. Estimated values for each element in the equation are: A=$650, B_1=$25, B_2=$75, and B_3=$125. The level of complexity for each test method is shown by the letter B with subscript 1, 2, or 3 in the first column of appendix 1 to the FEDERAL REGISTER announcement referenced in the first sentence of this notice.

Proficiency sample fees. In addition to the basic inspection and evaluation charges referenced above, there will be a fee associated with participation in proficiency sample tests where such tests are required. The last column in appendix 1 referred to above labeled "Requisite Reference Programs" identifies those test methods for which proficiency sample tests are anticipated. Proficiency sample fees pay for distribution of samples (where appropriate), the collection and analysis of the data, and the reporting of requests. The estimated annual fee for the proficiency sample testing associated with each of the test methods is nominally $80. In arriving at this figure, it has been assumed that two proficiency samples will be provided each year.

Example calculation. In order to clearly illustrate the way the annual fee would be calculated, the following example is provided. If a laboratory was to choose to be accredited for four simple test methods (B_1), three intermediate test methods (B_2) and two complex test methods (B_3), the fee equation would become:

$$F=\$650+\$25(4)+\$75(3)+\$125(2)=\$1,225$$

Added to this would be the cost of proficiency samples. If proficiency sample tests were required for two of these nine test methods at a cost of $80 each, the total cost of proficiency sample testing would be $160. The total annual accreditation fee for the testing laboratory in this example would be $1,385.

Inquiries. Any inquiries may be addressed to Dr. Howard I. Forman, Deputy Assistant Secretary for Product Standards, Room 3876, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-3221.

Dated: September 26, 1978.

JORDAN J. BARUCH,
Assistant Secretary for Science and Technology.

[FR Doc. 27499 Filed 9-28-78; 8:45 am]