

*Estimated Number of Responses per Respondent:* 3.265.

*Estimated Total Annual Burden on Respondents:* 1,395.

Comments are sought on these requirements including: (a) whether the continued collection of information is necessary for the proper performance of CCC contracting activities, including whether the information will have practical utility; (b) the accuracy of CCC's estimate of burden including the validity of the methodology and assumptions used; (c) enhancing the quality, utility, and clarity of the information to be collected; (d) minimizing the burden of the collection of information on those who are to respond, including using appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology. Comments should be sent to the Desk Officer for Agriculture, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503 and to Mr. Steven Closson, Chief, Storage Contract Branch, Warehouse and Inventory Division, Farm Service Agency, United States Department of Agriculture, 1400 Independence Ave., SW, Washington DC 20250-0553. Copies of the information collection may be obtained from Mr. Closson at the above address.

All responses to this notice will be summarized and included in the request for OMB approval. All comments will also become a matter of public record.

Signed at Washington, DC on March 12, 1997.

Bruce R. Weber,

*Executive Vice President, Commodity Credit Corporation.*

[FR Doc. 97-6786 Filed 3-19-97; 8:45 am]

BILLING CODE 3410-05-P

## Forest Service

### **Commonality of the Chemistries Involved in Moisture, Biological, Ultraviolet, and Thermal Degradations of Wood; Notice of Intent To Form a Consortium**

**Program Description—Purpose.** The USDA, Forest Service, Forest Products Laboratory (FPL) is seeking industrial partners to form a Consortium dedicated to understanding the commonality of the chemistries involved in moisture, biological, ultraviolet, and thermal degradations of wood, and developing basic approaches to protecting wood from degradation without loss of other basic properties, under the authority of the Federal Technology Transfer Act of 1986 (15 U.S.C. 3710a).

An industrial partner may be a Federal Agency, university, private business, nonprofit organization, research or engineering entity, or combination of the above.

A summary of the current status of preventing wood degradation is as follows:

(a) Wood is a three-dimensional, polymeric composite made up primarily of cellulose, hemicelluloses, and lignin. These polymers, along with extractives and inorganics, and the matrix they are in, make up the cell wall and are responsible for the characteristics, properties and performance of wood.

When considering wood as a long term engineering material it must be remembered that wood is a hygroscopic resource that was designed to perform, in nature, in a wet environment and that nature is programmed to recycle wood in a timely way through biological, thermal, aqueous, photochemical, chemical, and mechanical degradations.

There are four basic chemical reactions involved in all the degradation reactions of wood: Oxidation, hydrolysis, reduction, and dehydration. Because of the similarities in degradation chemistry, all these degradation reactions will be studied together.

Cell wall polymers are responsible for the properties of wood. Wood changes dimension with changing moisture content because the cell wall polymers contain hydroxyl and other oxygen-containing groups that attract moisture through hydrogen bonding. The hemicelluloses are mainly responsible for moisture sorption, but the accessible cellulose, noncrystalline cellulose, lignin, and surface of crystalline cellulose also play minor parts to major roles. Moisture swells the cell wall and the wood expands until the cell wall is saturated with water (fiber saturation point (FSP)). Beyond this saturation point, moisture exists as free water in the void structure and does not contribute to further expansion. The process is reversible and the wood shrinks as it loses moisture below the FSP.

Wood exposed to moisture frequently is not a equilibrium and has wet areas and drier areas. This exacerbates the moisture problem resulting in differential swelling followed by cracking and/or compression set. Over the long term, wood undergoes cyclic swelling and shrinking as moisture levels change resulting in more severe moisture effects than those encountered under steady moisture conditions.

Wood is degraded biologically because organisms recognize the carbohydrate polymers (mainly the hemicelluloses) in the cell wall and

have both specific and non-specific chemical and specific enzyme systems capable of hydrolyzing these polymers into digestible units. Biodegradation of both the matrix and the high molecular weight cellulose weakens the fiber cell wall. Strength is lost as the matrix and cellulose polymer undergo degradation through oxidation, hydrolysis, and dehydration reactions. As degradation continues, removal of cell wall content results in weight loss.

Wood exposed outdoors undergoes photochemical degradation caused by ultraviolet radiation. This degradation takes place primarily in the lignin component, which is responsible for the characteristic color changes. The surface becomes richer in cellulose content as the lignin degrades. In comparison to lignin, cellulose is much less susceptible to ultraviolet radiation degradation. After the lignin has been degraded, the poorly bonded carbohydrate-rich fibers erode easily from the surface, which exposes new lignin to further degradative reactions. In time, the "weathering" process causes the surface of the composite to become rough and can account for a significant loss in surface fibers.

Wood burns because the cell wall polymers undergo pyrolysis reactions with increasing temperature to give off volatile, flammable gasses. The hemicelluloses and cellulose polymers are degraded by heat much before the lignin. The lignin and carbohydrate components contribute to char formation, and the charred layer helps insulate the composite from further thermal degradation.

The idea of protecting wood in adverse environments dates back to early human history. Perhaps the earliest reference is in the Old Testament (Genesis 6:14) when God instructed Noah to build an ark of gopher wood (a naturally durable and hard wood) and cover it inside and outside with pitch (for both water repellency and decay protection).

Ancient civilization in Burma, China, Greece, and Italy used various animal, vegetable and mineral oils, tars, pitches or charring to preserve wood. Sometime during the second half of the eighteenth century, the science of wood preservation started with a search for toxic chemicals that could be used to treat wood to stop decay. The time line might include: mercuric chloride first used in 1705, patented in 1832; copper sulfate first introduced in 1767, patented in 1839; zinc chloride first used in 1815; creosote first used in 1836; copper, chromium and arsenic salts introduced in the early 1900's; and pentachlorophenol first introduced in

the 1930's. All of these treatments were based on broad spectra toxicity with little concern for environmental implications.

The earliest references to treating wood for fire retardancy dates back to the first century AD when the Romans used alum and vinegar to protect boats against fire. The science of fire retardancy started in the first half of the nineteenth century. In 1820 Gay-Lussac used ammonium phosphates and borax as fire retardants. Most of the inorganic fire retardants used today were developed between 1800 and 1870.

Protecting wood from moisture damage also dates back into antiquity. Waxes, oils, resins, paints, and coatings have been used to help exclude moisture since shortly after wood was first used by humans.

Protecting wood from damage caused by weathering also dates from the early use of wood. Stains and coatings have been used to cover wood from the degradation caused both by water and ultraviolet radiation.

The process of protecting wood from one type of degradation can cause another type of degradation to take place. For example, in fire retardant formulations involving free phosphoric acid, treated wood has been shown to lose strength. While the wood is very effectively treated for fire retardancy, service life is shortened by the loss in strength. Similarly, wood decking treated with chromated-copper-arsenate (CCA), while having excellent anti-fungal properties, is being replaced after a few years due to cracking and splitting caused by moisture damage.

Since there are only four basic chemistries involved in the degradation mechanisms of wood (hydrolysis, oxidation, dehydration, and reduction), there are many similarities in the degradation pathways regardless of the source of the degradation. Through a better understanding of these common degradation chemistries, it should be possible to protect wood in a more holistic way. That is, controlling one degradation chemistry can lead to the protection of another degradation mechanism. This leads to the idea of combined treatments to control several degradation pathways.

The Forest Products Laboratory is requesting support for this project. The support is in the form of membership in the consortium and funding in the amount of \$15,000.00 per year for the three-year proposed duration of the Consortium.

An informational and organizational meeting of the Consortium will be held beginning May 5, 1997, 1 p.m. and ending May 6, 1997, at 12 Noon, at the

USDA, Forest Service, Forest Products Laboratory, One Gifford Pinchot Drive, Madison, Wisconsin 53705-2398.

Technical questions may be directed to Roger M. Rowell at the above address, by fax at (608) 231-9262, or by phone at (608) 231-9416.

Questions of a business or legal nature may be directed to John G. Bachhuber at the above address, by fax at (608) 231-9585, or by phone at (608) 231-9282.

A copy of the proposed Cooperative Research and Development Agreement to be executed by consortium members may be obtained by writing Joanne M. Bosch at the above address, by faxing her at (608) 231-9585, or by phoning her at (608) 231-9205.

Done at Madison, WI, on March 11, 1997.  
Thomas E. Hamilton,  
*Director.*

[FR Doc. 97-7084 Filed 3-19-97; 8:45 am]

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## COMMISSION ON CIVIL RIGHTS

### Agenda and Notice of Public Meeting of the Connecticut Advisory Committee

Notice is hereby given, pursuant to the provisions of the rules and regulations of the U.S. Commission on Civil Rights, that a meeting of the Connecticut Advisory Committee to the Commission will convene at 1:00 p.m. and adjourn at 5:00 p.m. on Wednesday, April 16, 1997, at the U.S. Sheraton Hartford Hotel, Silas Deane Room, 315 Trumbull Street, Hartford, Connecticut 06103. The purpose of the meeting is to 1) provide an orientation for new Committee members, and 2) plan project activities for FY 1997.

Persons desiring additional information, or planning a presentation to the Committee, should contact Committee Chairperson Dr. Ivor J. Echols, 860-688-2009, or Ki-Taek Chun, Director of the Eastern Regional Office, 202-376-7533 (TDD 202-376-8116). Hearing-impaired persons who will attend the meeting and require the services of a sign language interpreter should contact the Regional Office at least five (5) working days before the scheduled date of the meeting.

The meeting will be conducted pursuant to the provisions of the rules and regulations of the Commission.

Dated at Washington, DC, March 12, 1997.  
Carol-Lee Hurley,  
*Chief, Regional Programs Coordination Unit.*  
[FR Doc. 97-7083 Filed 3-19-97; 8:45 am]  
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## DEPARTMENT OF COMMERCE

### Submission for OMB Review; Comment Request

DOC has submitted to the Office of Management and Budget (OMB) for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

*Agency:* Bureau of the Census.

*Title:* Questionnaire for Building Permit Official.

*Form Number(s):* SOC-QBPO.

*Agency Approval Number:* 0607-0125.

*Type of Request:* Revision of a currently approved collection.

*Burden:* 209 hours.

*Number of Respondents:* 835.

*Avg. Hours Per Response:* 15 minutes.

*Needs and Uses:* The Bureau of the Census uses the Questionnaire for Building Permit Official in conjunction with the Survey of Housing Starts, Sales, and Completions (OMB number 0607-0110), also known as the survey of construction (SOC). Data collected in the SOC are used to produce statistics on residential construction and are needed by economic policy makers to monitor this sector of the economy. Census field interviewers use the Questionnaire for Building Permit Official to obtain information on the operating procedures of a sample of the building permit issuing offices in the United States in order to locate, classify, list, and sample building permits for residential construction. This information is used to carry out the sampling for the SOC and to verify and update the geographic coverage of permit offices.

In July 1997, we plan to convert to an electronic form to collect this data. We have been experimenting with Computer Assisted Personal Interviewing (CAPI) and have been using this technology on a test basis since November 1995. Currently, interviewers use a paper form to record respondents' answers. We have improved the CAPI instrument over the paper form based on a reassessment of our data capture needs and efforts to minimize burden. For example, we have deleted some items that are no longer used, added others that enhance the conduct of the SOC, and improve the flow of questions and overall survey administration.

*Affected Public:* Business or other for-profit.

*Frequency:* Annually.

*Respondent's Obligation:* Voluntary.

*Legal Authority:* Title 13 USC, Section 182.