

Permissible Metric-Only Labeling

*Includes Proposed Amendments to the Fair
Packaging and Labeling Act*

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A Message from the Director of NIST's Technology Services

I am pleased to provide you with this report on Permissible Metric-only Labeling that describes the results of forums held in Washington, D.C. in November 2002 and November 2003 (and includes updated information for 2007.) The National Institute of Standards and Technology (NIST) and the National Conference on Weights and Measures (NCWM)¹ support this effort which represents the work of individual companies as well as trade and industry groups representing more than 500 U.S. manufacturers, importers and exporters who want the option of labeling packages with only metric units. The purpose of this report is to encourage wider participation among business, government and other interested parties in collaborative efforts to eliminate barriers to metric labeling on packaged goods.

NIST is the agency of the U.S. Department of Commerce responsible for directing and coordinating efforts by Federal departments and agencies to implement metric use under the Metric Conversion Law and a Presidential Executive Order.² The metric system has been legal for use in trade and commerce in the U.S. since 1866. In 1988, Congress established the policy that the metric system is the preferred system of measurement for use in trade and commerce. Congress has also decided that the transition to the metric system in the United States is to be voluntary with business and consumers deciding when it is most convenient and advantageous to bring about change in the marketplace. For almost 100 years, NIST has worked with the NCWM, business and industry, plus representatives of the Food and Drug Administration (FDA), the Federal Trade Commission (FTC), the United States Department of Agriculture (USDA), and other state and federal agencies to ensure equity in the marketplace through the development of uniform weights and measures laws and regulations.

Under the current Fair Packaging and Labeling Act (FPLA),³ the net quantity of contents declarations on packages of consumer goods must include both inch-pound and metric units ("dual-units" labeling). The focus of this current effort is to develop an amendment to the FPLA to give packagers the option of displaying only metric units in the net quantity of contents statements on packages. The amendment would continue to allow inch-pound units to be displayed along with the metric units. The use of metric units will be voluntary and manufacturers need to work with their customers to determine when the change will be appropriate. In 1999 the NCWM changed the Uniform Packaging and Labeling Regulation published in NIST Handbook 130 "Uniform Laws and Regulations..." to permit packagers to declare net quantities of content in metric units on packages subject to state jurisdiction. I am pleased that the NCWM and individual states have taken the lead in eliminating barriers to metric labeling.

In this report you will learn about justifications for, and concerns about, permissible metric labeling. We want to explore these concerns so that we can develop workable solutions and ensure that the transition of the marketplace to the metric system in the future is as effective and efficient as possible.

Dr. Belinda Collins, Ph.D.
Acting Director, Technology Services
National Institute of Standards and Technology
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¹ To contact the NCWM visit <http://www.ncwm.net> or contact:., NCWM, 15245 Shady Grove Road - Suite 130, Rockville, MD 20850. Phone: 240-632-9454, Fax: 301-990-9771 or by E-mail: ncwm@mgmtsol.com.

² See Executive Order 12770 of July 25, 1991 at: <http://ts.nist.gov/ts/htdocs/200/202/pub814.htm#president>.

³ (15 U.S.C. §§ 1451-1461).

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The Forums on Permissible Metric-only Labeling

Executive Summary

For this report, the terms “metric labeling” or “metric-only labeling” means that the net quantity of contents on packages will only be declared in metric units. Currently, the Fair Packaging and Labeling Act (FPLA) requires packagers to provide both inch-pound and metric units on the principal display panel of their packages (called “dual-unit” labeling).

In 2002 and 2003 forums were held at the request of trade associations and industry groups representing more than 500 U.S. manufacturers, exporters, importers and others who want to have the option of labeling packages with only metric units. Congress has declared that the transition to the everyday use of the metric system in the United States is to be accomplished on a voluntary basis with business and consumers deciding when it is most convenient and advantageous to bring about change in the marketplace. The goal of this effort is help industry obtain an amendment of FPLA to permit them to use metric labeling. The forums:

- Provided an opportunity for consumers, manufacturers, packagers, exporters and importers, retailers, federal and state agencies, and other interested parties to express their views on permissible metric labeling.
- Allowed participants to review federal and state laws and regulations relating to package labeling requirements, especially as they relate to metric units.
- Included a review of the proposed amendment to the Fair Packaging and Labeling Act.
- Allowed participants to coordinate their activities and share information to eliminate other barriers to permissible metric labeling in federal and state laws or regulations.

Forum Participation

More than 90 representatives of state and federal agencies, foreign governments, trade associations, manufacturers, retailers, and other interested parties, attended the forums that were held in Washington, D.C. A list of registrants and attendees and copies of the presentations made at each forum are available at <http://www.nist.gov/metric> on the Internet. The participants included:

International: Representatives from Measurement Canada and the European Union/Delegation of the European Commission.

Federal Agencies: Alcohol and Tobacco Tax and Trade, the Food and Drug Administration, Federal Trade Commission, and the Departments of Transportation and Commerce.

Trade Associations and Consumer Product Companies: American Meat Institute, Association of Home Appliance Manufacturers, The Arts and Creative Materials Institute, The Food Marketing Institute, Grocery Manufacturers of America, International Dairy Foods Association, National Food Processors Association, National Paints and Coatings Association, Soap and Detergent Association, The Small Business Legislative Council, Procter and Gamble Company, Georgia-Pacific, Colart Americas Inc., Binney & Smith Inc., Safeway, and the Kroger Company.

Legal Metrology: The National Conference on Weights and Measures.

Other Organizations: National Consumers League and the U.S. Metric Association.

Activities and Issues Discussed at the Forums

Presentations explained how changes in the global labeling environment and retail marketplace have substantially increased consumer familiarity with and acceptance of metric units on retail packages. Several speakers described examples of the widespread and successful use of metric units on packages to provide net quantity, nutrition and health related information, and highlighted its extensive use with prescription and over the counter medicines, vitamin supplements, wine, distilled spirits and other consumer products.

The forums included extensive periods of discussion and succeeded in identifying problems that might arise if metric labeling were permitted. They also provided an opportunity to explain why the option of metric labeling is needed and to identify how it can be implemented to have a positive impact in the marketplace. A coalition of government, industry and other interested parties will identify and resolve problems related to metric labeling and develop support for the proposed FPLA amendment. Comments and lessons from the forums included the following:

- The coalition must work with the states, industry, consumers and others to:
 - Promote greater understanding and everyday use of metric units in trade and commerce.
 - Increase the availability, accuracy and use of value comparison tools (e.g., unit pricing) to assist consumers in making the transition to metric labeling and in getting the best value in their purchases.
- NIST and other Federal agencies, the states, industry, and consumers must work together to promote a strong presence of weights and measures supervision and enforcement to ensure that packages are labeled in accordance with applicable laws and that net quantity of contents information is accurate.
- A consistent comment from Federal, state and local governments, manufacturers and retailers was that the industry responds to feedback from consumers on the products and services they want in the marketplace as well as how they want products weighed, measured, or labeled. Although very few people have asked retailers for metric units on packages, NIST receives thousands of requests annually for information on the metric system and for guidance on what individuals can do to encourage greater use of the metric system.
- **(See page 13 for an update on this section)** More than 95 % of the states permit the use of only metric units on packages subject only to their jurisdiction. In addition to changing the FPLA, other state and Federal (e.g., USDA, FTC and FDA) laws and regulations may have to be changed so that consumers have access to consistent information on package labels.
- **(See page 14 for an update on this section)** A European Union Directive will not permit inch-pound units to appear on consumer packages after January 1, 2010.⁴ (Copies of the EU Directive and on list of Frequently Asked Questions concerning the application of metric-only labeling under the Directive are available at <http://www.nist.gov/metric>.) Representatives of several consumer product companies that both export and import packaged goods said that they would face significant production, warehousing and other costs if they were required to maintain two types of packaging for the same product. However, these costs will be avoided if the requirement of “dual-units” in the FPLA is removed.
- A concerted effort must be made to break the perception that many people have of equating metric conversion with a forced change to standardized sizes (called “rational package sizes” and “hard conversion.”) While this approach was taken in the past, “hard conversion” is today recognized as one of the major stumbling blocks to voluntary conversion to the metric system. Most of retailers’ concerns about metric labeling can be traced to the potential negative impact of hard conversion.

⁴ See Appendix A.

The NCWM has eliminated its package size limitations, and its uniform laws and regulations now permit the use of metric labeling. It is important to note that many countries around the world are working to eliminate package size restrictions in their laws (including the European Union). It appears that Unit Pricing at the retail store level, which has been available mostly on a voluntary basis from retailers for more than 30 years, may become the preferred method of providing consumers with information that they can use to make value comparisons. While several food manufacturers expressed support for amending the FPLA to provide for permissible metric labeling objections were heard in 2002 and 2003 from the trade association representing retail food stores. At least one retailer believes that consumers might not accept metric labels because they would not be able to make value comparisons. Other objections related to the expense of replacing shelf labels if changes in package net content declarations by manufacturers are not coordinated with the routine shelf-label changes that retailers make and to the possibility of consumer complaints if they do not find inch-pound units on packages.

- Several representatives of individual companies and two trade associations expressed strong support for amending FPLA to allow permissible metric labeling. The practical approach is to allow consumers, manufacturers and retailers to determine when to use only metric units on packages. To avoid negative customer reactions, manufacturers must consider the concerns of both retailers and consumers when considering the change to metric units. This type of information exchange has been an ongoing part of manufacturer customer feedback systems. For example, one manufacturer's representative explained that while current consumer research indicates that U.S. consumers do not prefer package net content statements overflowing with inch-pound information in multiple languages. It was also pointed out that industry needs to learn more about how to provide consumers with metric information, but has no incentive to conduct consumer studies regarding metric units because they are not permitted. Companies must perform this type of consumer research before changing to metric labeling. From the comments made at both forums, it is clear that industry does not expect to make immediate changes in domestic marketing practices when the FPLA is changed. In support of that view, several manufacturers stated that when the FPLA is changed, they would most likely introduce metric labeling during new product introductions, or when products undergo a significant change in packaging or formulation. They also indicated that these events are often used to introduce other changes in their marketing and advertising campaigns.
- Metric labeling will not impact the Federal Women, Infant, and Children (WIC) or other food programs that may list specific quantities of products that their clients may purchase for meals. Federal agencies will be able to include metric equivalents for any quantities once FPLA is amended to permit metric labeling because they are required under Executive Order⁵ to use metric units in their business related activities. NIST is currently working with federal agencies to identify areas where metric units can and should be used in publications and programs (especially those related to packaged goods).
- NIST has developed labeling guides to aid packagers, label designers, manufacturers and others in understanding the method of sale and labeling requirements under the Uniform Packaging and Labeling Regulation in NIST Handbook 130. That handbook is the basis for the labeling regulations in most states. Each guide provides examples of how to correctly label packages in both inch-pound and metric units by weight, measure (e.g., length, width, thickness and area), fluid volume, dry volume, and count. Copies of NIST Special Publication 1020 – “Labeling Guides” are available at the following URL:

<http://ts.nist.gov/WeightsAndMeasures/pubs.cfm>

Contact:

Elizabeth Gentry
National Institute of Standards and Technology
Weights and Measures Division
Laws and Metric Group
100 Bureau Drive Stop 2600
Gaithersburg, Maryland 20899-2600

Email: TheSI@nist.gov
URL: <http://www.nist.gov/metric>
Tel: 301-975-3690
FAX: 301-975-8091

⁵ Executive Order 12770 of July 25, 1991: Metric Usage in Federal Government Programs.

Permissible Metric-only Labeling

I. Introduction

The United States adopted the metric system⁶ for use in trade and commerce in 1866. In 1988 Congress declared that the metric system was the preferred system of measurement for trade and commerce for this country. Congress also decided that conversion to the metric system is to be voluntary, with business and consumers deciding when it would be most convenient and advantageous to bring about change in the marketplace. One goal of the current initiative is to eliminate the conflict between the law⁷ that encourages the voluntary use of the metric system in trade and commerce and other laws or regulations that limit its use. The goal of this effort is to help industry obtain an amendment of the Fair Packaging and Labeling Act (FPLA) that would allow packagers to label packages with only metric units (called metric labeling in this report). The FPLA currently requires that manufacturers provide both inch-pound and metric units on the principal display panel of their packages, called “dual-unit” labeling.

Several of America’s most prominent corporations⁸, including Procter and Gamble⁹ and Binney and Smith Inc. (makers of Crayola® crayons),¹⁰ and a large paper manufacturer expressed a need for manufacturers to have the option of metric labeling on their products. The Arts and Creative Materials Institute Inc. (ACMI), an international trade organization of more than 200 art and craft materials manufacturers, supports metric labeling because they believe current FPLA requirements for dual-units impose an economic burden on their membership as more and more countries require metric labeling. The National Paints and Coatings Association (NPCA), a voluntary, nonprofit trade association representing some 400 manufacturers of paints, coatings, adhesives, sealants, and caulks, raw materials suppliers to the industry and product distributors, also supports metric labeling. One reason that manufacturers need the metric labeling option is to simplify the packaging of products intended for both domestic and foreign markets. Both importers and retailers have expressed support for metric labeling, and they report that there is increasing acceptance and use of the metric system by their customers. For example, consumers now buy billions of dollars worth of products labeled with only metric units, and more metric units are being used in the fields of health care and nutrition, as well as in advertisements and even news stories.

One of the biggest barriers to increased adoption and use of the metric system is a fear that requirements or interpretations might increase costs and have other impacts if manufacturers have to change the sizes of their packages. Under current laws, manufacturers generally are free to increase or decrease package sizes to meet the needs of their customers and to provide competitive package sizes. However, it is essential to break the apparent connection between metric conversion and forced standardization of sizes (hard conversion). Almost every attempt to increase the use of the metric system has encountered resistance

⁶ In 1960 the metric system was updated and renamed the International System of Units (SI) by the General Conference on Weights and Measures. In the U.S. it is interpreted or modified by the Secretary of Commerce. [See U.S. Weights and Measures Law - United States Code - Title 15, Chapter 6, Subchapter II Metric Conversion and NIST Special Publication 814 - Metric System of Measurement; Interpretation of the International System of Units for the United States or subsequent revisions.] These publications are available at <http://www.nist.gov/metric>.

⁷ In 1988, Congress amended the Metric Conversion Law (15 U.S.C. Chapter 6, § 205 b) to declare that it is the policy of the U. S. that the SI is the preferred system of weights and measures for trade and commerce. In 1992, Congress amended the FPLA to require the most appropriate units of the SI and customary inch-pound systems of measurement to appear on certain consumer commodities but this law does not permit metric-only labeling.

⁸ Disclaimer: Any mention of an individual, corporation, organization, commercial product, or brand name within this NIST publication or web page is for information only; it does not imply recommendation or endorsement by NIST.

⁹ Established in 1837, the Procter & Gamble Company began as a family operated soap and candle business in Cincinnati, Ohio.

¹⁰ Crayola is a registered trademark of Binney and Smith Inc. of Easton, Pennsylvania.

when the notions of “estimated” cost increases and widespread impact of “hard conversion” are faced. Unfortunately, this has become a perceived, though unreal, barrier to the use of the metric system in the United States, as it has in every other country.

It is important to note that the International System of Units (SI), generally known as the metric system, is about measuring the weight or dimensions of objects, not changing their sizes. Any object weighed or measured using the metric system has a “metric size” (e.g., this page is 21.5 cm by 28 cm), just as the same object measured using customary units has a size (8½ in by 11 in). While the standardization of sizes provides some benefits by simplifying things, the process of standardization is independent of the system of measurement, hence should not dictate whether or not metric units are used. This does not imply that standardization efforts should be ignored, because they do provide excellent benefits in most circumstances. But the decision to implement size changes must be made by those directly affected by the effort after the costs and benefits have been carefully considered and properly balanced as part of a planned change coordinated with all interested parties.

The proposed changes to the FPLA presented in this report do not impose restrictions on package sizes. The Food Marketing Institute¹¹ (a trade association representing food retailers and food packagers) has expressed concerns about the potential for the increased use of metric labeling. Their concerns relate primarily to the potential problems that would be encountered if changes in package sizes are imposed (i.e., hard conversion to metric sizes). However, package sizes are no longer considered to be the most effective means of making value comparisons since unit pricing was introduced in the United States more than three decades ago, eliminating the need for standardized package sizes. A similar process is currently going on around the world with countries such as New Zealand and the member states of the EU¹² considering the repeal of laws that mandate package sizes. The proposed amendment to the FPLA will not impose any restrictions on package sizes, so concerns in this area should be resolved. Lorelle Young, President of the U.S. Metric Association (USMA)¹³ says that that organization “does not support the notion of packaging in standard metric sizes” as it “believes companies are the best judges of the sizes to use in marketing their products.”¹⁴

When it comes to consumer products, standardization must be voluntary (e.g., bottled water, olive oil and soft drinks already have accomplished some degree of standardization voluntarily). Consumers should have a say in what they can purchase, and manufacturers and the distribution and retailing system should not be burdened with costly changes in machinery, packaging and shipping containers, and shelving (a few of the items impacted) when the dimensions of packages and containers are changed.

Exports and International Competition

Global trade is already multi-lingual; within the foreseeable future manufacturers will be required to show only metric units on their package labels in many major marketplaces. The European Union Directive will not permit inch-pound units to be shown on packages as an option in the near future. To continue to be competitive, manufacturers must avoid the cost of maintaining separate inventories of metric packaging for use on exports and “dual-units” labeling for products sold in this country. While it is possible that permissible metric labeling option may increase exports of U.S. products, it is a certainty that without it U.S. manufacturers will incur needless packaging and inventory costs.

¹¹ The letter from the Food Marketing Institute that details their concerns is at <http://ts.nist.gov/ts/htdocs/200/202/forum/forumdir.htm> on the Internet.

¹² See “Pack Size in the EU - An Internet Consultation” at <http://europa.eu.int/comm/enterprise/prepack/index.htm>

¹³ The U.S. Metric Association, 10245 Andasol Avenue, Northridge, California 91325-1504. Telephone and Fax at 818-363-5606. A non-profit organization, founded in 1916, that advocates conversion to the metric system. The USMA website at <http://lamar.colostate.edu/~hillger> includes materials about the metric system and metrication in the United States and around the globe. It also includes information on the organization’s officers, accomplishments, activities, resources, and links to other non-commercial websites with additional metric system information.

¹⁴ The complete text of Mrs. Young’s speech is available at <http://www.nist.gov/metric> on the Internet.

Freeing up label space on products will also provide manufacturers with more space to present safe use directions or other information to comply with a wide range of emerging labeling requirements (e.g., those identifying organic farming methods or country of origin for many food products, and retained moisture notices on meat and poultry products).

Importers and Retailers

U.S. manufacturers are not the only ones who would benefit from the option of metric labeling to ensure that their products can be sold around the world. Importers and retailers who purchase manufactured goods from other countries and bring them into our marketplace, where both metric and inch-pound units are required, face a similar dilemma. The Arts and Creative Materials Institute Inc. (ACMI),¹⁵ an international trade organization of more than 200 art and craft materials manufacturers, made a strong case for metric labeling by illustrating how the current labeling requirements for dual-units will impose an economic burden on its membership as more and more countries require metric labeling.

For example, if the FPLA is not amended before the EU Directive goes into effect, manufacturers in other countries that do not have packaging with metric units for the EU and packaging with both metric and inch-pound units for the United States, will not be able to sell packages with only metric units in the United States; conversely, U.S. manufacturers with packaging in inch-pound units will not be able to sell their products in the EU.

No company, large or small, can afford to maintain multiple inventories of packages for markets in different parts of the world and remain competitive with local producers. Whenever unnecessary costs are added to any business's overhead, they are reflected in higher consumer prices. Different types of packaging impose additional storage demands for separate inventories needed to maintain separate packages for the various countries in which the products are to be marketed. Without a change in the law, both large and small manufacturers will be faced with higher production and inventory costs or they will have to stop selling their products in many markets. The resultant reduced competition and fewer product choices would be detrimental to consumers and business alike. On the other hand, requiring companies to maintain multiple types of packaging increases costs that will either be passed to consumers or absorbed by the manufacturer. If costs have to be passed on to consumers, manufacturers could be placed at a competitive disadvantage because prices will have to be raised to pay for maintaining multiple types of packaging. Importers will be able to provide products to consumers at lower cost if they have the option of metric labeling since they would be able to avoid having to pay suppliers to label packages with "dual-units."

Retailers, both small specialty stores and major national food chains, who sell packages of imported foods and other products with only metric units in New York, Pennsylvania, Maryland and Washington, D.C., risk legal sanctions because these products are not available from European manufacturers with dual-units. These stores cater to their customers' requests and should not be unreasonably penalized for providing metric-labeled products at the lowest possible price. This is important because small retailers can continue to provide those imported products at the lowest possible price only if they can sell the same metric packaging that their suppliers use in their home markets.

Requiring retailers or importers to incur additional costs to have packages re-labeled (sometimes by hand) to meet the current "dual-units" requirements of the FPLA inflates the price of the products to consumers who routinely purchase them based on metric units. Moreover, relabeling packages after they are received in retail stores may result in conversion errors and labeling that may not meet labeling regulations for minimum type size, color contrast, or placement. It is important to note that many of these metric products sit on store shelves alongside domestic products that are required to include metric units. This provides for

¹⁵ The Art & Creative Materials Institute, Inc. (ACMI) is an international association with a membership of more than 200 small companies.

value comparisons by consumers who can use the metric units to compare package values if a store does not provide unit pricing shelf labels.

Consumers

Use of the metric system continues to grow in the United States. Through the everyday use of metric units, people learn to understand the system and become more proficient in its use. Consumers purchase packages labeled with only metric units of measure every day. We have all become accustomed to purchasing soft drinks and other beverages by the liter! Today, practically everyone can identify a 2-liter bottle without reading its label. A greater understanding of the metric system is crucial for consumers to understand and relate to the metric measurements used in health care, with prescriptions and over the counter drugs, and with nutritional labeling information provided with recipes and on packages of food products. By using metric units in their everyday activities, people are learning to use and relate to the quantities as easily as they currently do using pounds and ounces, feet and inches.

Metric units are already in use on a wide variety of products that are currently sold in the marketplace. For example, prescription drugs, over-the-counter medicines and vitamins are sold in milligrams and grams, and most tires for our vehicles are sized in millimeters.¹⁶ The need to gain a greater understanding and increase their use of the metric system in these areas is an important priority of the current effort so that consumers can make decisions to improve their health and that of their families. For more than a decade, one of this nation's top priorities has been to educate consumers about the nutritional value of foods so that they may eat their way to better health. According to the Food Marketing Institute,¹⁷ "more than 85 % of supermarket shoppers in the United States attempt to eat a healthier diet."¹⁸ This important information tells consumers what their daily intake of fat, cholesterol, sodium, and carbohydrates should be in metric units, and how much the product contains so that they can choose the products that best help them maintain a healthy lifestyle. Many consumer products, such as wine and distilled sprits, are sold by the liter or milliliter, and each day consumers buy millions of 500 milliliter, and 1-, 2-, and 3-liter bottles of a wide variety of beverages such as water and sodas. Metric units of measurement are also available on many Internet sites, including the Weather Channel,¹⁹ which gives its users the option of viewing temperatures in degrees Celsius, wind-speed in kilometers per hour, and precipitation in millimeters.

The importance of increasing our ability to understand and to use the metric system effectively is crucial to protecting public health and safety. A recent news story in the Wall Street Journal reported the results of a study by the U.S. Pharmacopeia's Center for the Advancement of Patient Safety, which found that the "incorrect administration of drugs is a significant cause of errors and poses an especially serious risk to children and emergency room visitors ... for children, the problem often stems from a miscalculation when converting weights from pounds to kilograms, leading to improper dosing."²⁰

It is common to find errors whenever weights and measures are converted, but this is not limited to the use of the metric system. Errors commonly occur when people convert fractional ounces or pounds into decimal units, or when a weight or measure value is converted from one system to another, or even to

¹⁶ For an extensive listing of products with only metric units go to U.S. Metric Association web site at <http://lamar.colostate.edu/~hillger/products.htm> on the Internet.

¹⁷ The Food Marketing Institute, 655 15th Street, N.W., Washington, DC 20005 Tel: 202-452-8444 Fax: 202-429-4519 by email at fmi@fmi.org or at <http://www.fmi.org> on the Internet. The FMI conducts programs in research, education, industry relations and public affairs on behalf of its 2,300 members — food retailers and wholesalers — in the United States and around the world. FMI's retail membership is composed of large multi-store chains, regional firms and independent supermarkets. Its membership also includes 200 companies from 60 countries.

¹⁸ Source: "Shopping For Health 2002 Volume 1" published by the Food Marketing Institute.

¹⁹ "The Weather Channel" is available at <http://www.weather.com>

²⁰ Stacy Foster, *Drug Dosing is a Major Cause of Hospital Errors*. Wall Street Journal Online. (December 4, 2002)

different units in the same system. Any type of conversion process increases the possibility of mathematical and rounding errors. Also, the original value may be inaccurate due to errors in weighing and measuring instruments. It is important to note that most users do not know how accurate their scales and measuring instruments are because their accuracy can be determined only by using specialized test equipment that most users do not have, and using test procedures that most people do not understand. Although the best action for the situation described in this story is to convert hospital and physician's scales to the metric system, it still will not address the need for the public to understand and relate to metric units in order to understand health-related information.

The world marketplace is a constantly changing environment and, while change or proposed change seems difficult regardless of magnitude, U.S. consumers readily accept change in the retail marketplace if the change is properly implemented and if they receive appropriate information and explanation as part of marketing efforts. NIST will develop and provide case studies and other information to assist manufacturers in developing effective consumer education and marketing efforts.

Ensuring that consumers are able to make value comparisons must be one of the critical issues addressed in the transition of our marketplace to the metric system. There is simply no better tool for value comparisons than the unit pricing information that many retailers already provide. The working group will explore ways of increasing uniformity and accuracy of unit pricing, as well as increasing its availability throughout the marketplace.

Several comments were made in connection with package labeling and methods of sale that identified a number of packaging or marketing practices (unrelated to metric or inch-pound units), recently found in the marketplace, which may be misleading or confusing to some consumers. NIST has identified several examples of methods of sale that may confuse consumers (e.g., selling the same product by weight in sales from bulk and by dry measure in sales of packages in the same store). NIST also stressed the need to increase consumer use of unit pricing information when shopping (e.g., in a recent consumer survey by the Progressive Grocer Magazine, 82.8 % of the respondents rated the availability of unit pricing presented on store shelf tags as an important criterion for selecting a store.)²¹ Incorrect unit prices and scanner pricing errors are also issues that have been recently raised by the media that can be resolved through active collaboration with the retail food industry. NIST believes that the challenge is to develop guidelines that prevent unfair or deceptive methods of packaging and labeling to ensure equity in the marketplace, and that NIST would work with consumers, manufacturers and retailers and other interested parties to achieve that goal.²²

II. The Need to Amend the Fair Packaging and Labeling Act

The FPLA was amended in 1992 to require that metric units be displayed on packages.²³ The purpose of that change was to familiarize consumers with metric units so that they could learn to equate familiar quantities to the metric units of measure. Some manufacturers have included metric units on package labels for more than 30 years, especially on products that they intend to sell both here and in other countries.

Prior to 1992, the FPLA required a declaration of quantity to be in inch-pound units as a dual quantity statement. This meant that a package had to include both ounces and the largest whole unit (e.g., 32 ounces (2 lb)) in the net quantity statement, and ounces had to be primary or listed first. The 1992 amendment dropped the dual quantity statement, but instead required both inch-pound and metric units be shown in the largest whole unit, with either declaration appearing first. The metric units have proven informative and have helped consumers learn to relate metric quantities to the equivalent inch-pound quantities.

²¹ "Consumer Trends" in *The Progressive Grocer Annual Report*. Page 30. April 2002.

²² See NIST's presentation on methods of sale at <http://www.nist.gov/metric> on the Internet.

²³ See *Congressional Record - Senate* for July 21, 1992 at S10030.

The proposed change to the FPLA would allow manufacturers the option of showing only metric units in their net quantity declarations. Currently, FPLA requires a dual-unit label such as shown in the examples in box A or B:

24 fl. oz. (1 Pint 8 fl. oz.) 710 mL

A or

710 mL (1.5 Pt.)

B

The proposed amendments to FPLA would permit manufacturers the option of providing dual-unit labels, such as those shown in boxes A & B, or a metric only label as shown in box C:

710 mL

C

These examples all represent the same quantity of product. However, only the metric declaration is required to be consistently displayed as it appears above so that value comparisons using the metric quantities are always possible. The inch-pound designations may differ, as seen in boxes A and B. Still, the declarations shown above represent the same quantity of product.

The FPLA and other Federal laws and regulations govern the labeling requirements for most consumer products; however, many products fall only under state laws.²⁴ In 1999, the National Conference on Weights and Measures (NCWM) amended its Uniform Packaging and Labeling Regulation (UPLR)²⁵ to allow packages not subject to Federal regulations to be labeled with metric units.

The NCWM is committed to working towards the international harmonization of laws and regulations related to legal metrology, while it also works to ensure equity between sellers and consumers and fair competition in the marketplace. To that end, the NCWM has eliminated barriers to the use of metric units in trade and commerce in all of its model laws and regulations²⁶ so that the marketplace is free to use

²⁴ Some of the products that are not covered by the FPLA, but are under the jurisdiction of the states: automotive products, such as motor oil and cleaning and polishing chemicals; greeting cards; school supplies; bottled gas for heating or cooking; hardware; sewing accessories; Christmas light sets; ink; small arms ammunition; cigarette lighters; lawn and garden supplies; souvenirs; clothing and other textiles; magnetic recording tape; stationery and writing supplies; durable goods; paints and kindred products; threads; gift ties and tapes; pet care supplies; tools; gift wraps; safety flares; toys; safety pins; and typewriter ribbons.

Other exceptions: the Federal Trade Commission's regulations under the FPLA do not apply to non-consumer packages, which are those intended for industrial or institutional use, whereas labeling regulations issued by the Food and Drug Administration under the Federal Food, Drug, and Cosmetic Act may apply to these types of packages. Labeling requirements for alcohol (including liquors, wine, and beer) and for tobacco are under the jurisdiction of the Treasury Department's Alcohol and Tobacco Tax and Trade Bureau; insecticides, fungicides, and rodenticides are under the jurisdiction of the Environmental Protection Agency; and the labeling of meat and poultry products is controlled by the United States Department of Agriculture.

²⁵ See the Uniform Packaging and Labeling Regulation at <http://ts.nist.gov/ts/htdocs/230/235/h130-04.htm> on the Internet.

²⁶ For scales and other weighing and measuring devices see NIST Handbook 44 "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices" at <http://www.nist.gov/owm> on the Internet. For packaging and labeling and other regulations see the Uniform Packaging and Labeling Regulation in NIST Handbook 130 "Uniform Laws and Regulations in the areas of legal metrology...." see <http://www.nist.gov/owm>.

metric units when consumers and business decide to change. Today, under state and local laws, all scales, gas pumps and other weighing and measuring instruments used in trade and commerce can be calibrated to weigh or measure using the metric system. Also, unit pricing for products sold by weight can be by the price per kilogram or price per 100 grams (e.g., if a product costs \$7.69 per pound its unit price in metric units would be shown as \$16.95 per kilogram or \$1.69 per 100 grams).²⁷

It is the position of the NCWM that the marketplace is the best judge of when metric labeling is appropriate. Since January 1, 2000, the UPLR has allowed metric net quantity declarations on consumer packages. The UPLR has allowed metric labeling on non-consumer packages (those packages marked for wholesale and industrial trade) for more than 20 years.

2007 Update

As the map in Figure 2 shows, 48 states reported in November 2003 that they permit metric labeling on consumer packages. The two remaining states are Alabama and New York. The State of New York has indicated that they may revise their regulations to permit metric labeling next year.

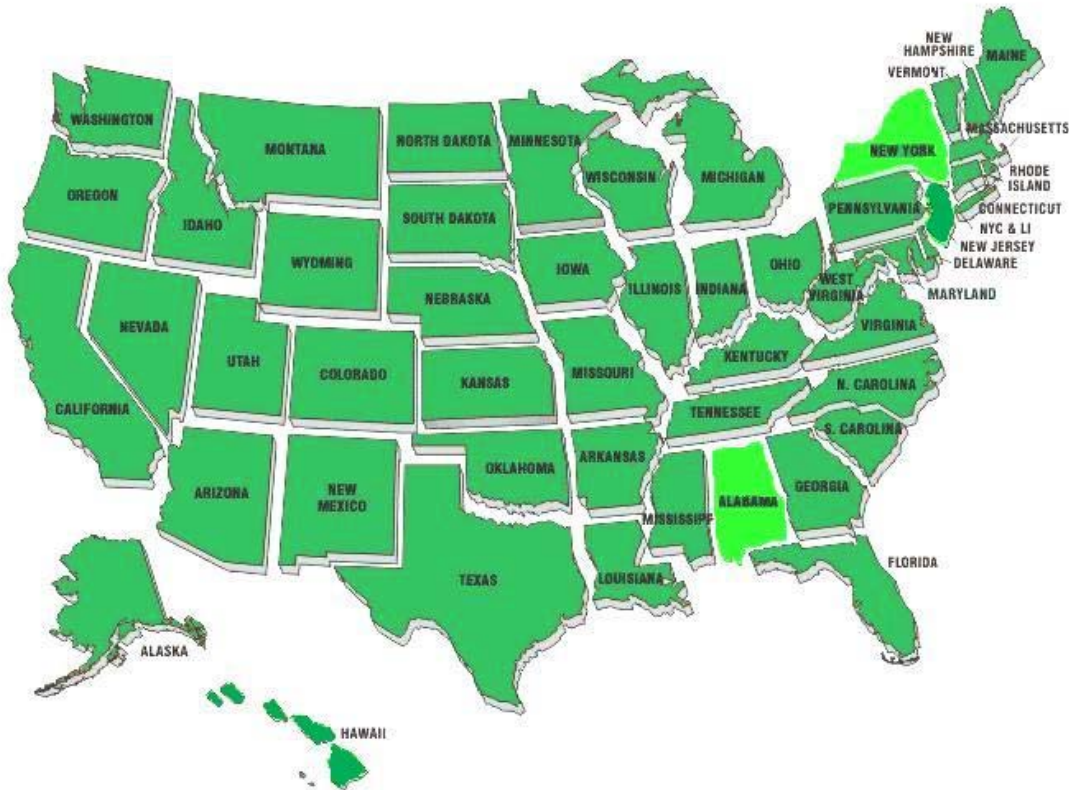


Figure 1. States that allow metric labeling 09/12/05)

This change in state and local labeling requirements enables U.S. firms that also do business in Canada, Mexico, the European Union (EU), and other markets to use a global package labeled in a manner that is

²⁷ A copy of a presentation by the NCWM is available at <http://www.nist.gov/metric> on the Internet.

compliant in all markets. If Congress follows the lead of the States, Federal laws and regulations would eliminate barriers to the use of metric-only labeling on all products nationally.

European Union to require Metric Labeling by 2010

A European Union (EU) Directive²⁸ requires that after January 1, 2010, all packages sold in the EU be labeled only with metric units. The Directive will not permit inch-pound units to appear anywhere on the package. The global nature of the marketplace means that the Directive will impact the U.S. market and impact both U.S. and European companies. A letter from the European Union regarding this deadline for metric labeling is shown in Appendix A.

Other markets around the world require metric units, some also allow inch-pound units to appear on packages that come from the United States. Governments in these countries want to change their laws to require metric only to be consistent with the EU. Correspondence from the governments of Japan and New Zealand (available at <http://www.nist.gov/metric>) shows broad international support for metric labeling and indicates that U.S. exporters and importers will find it easier to buy and sell goods in markets that are predominantly metric.

Closer to home, it is important to note that most of the countries in this hemisphere (e.g., Canada, Mexico and the remainder of Central and South America) also require metric units on consumer packages, but permit inch-pound units to be shown as an added option. The governments of the Americas are working through the Inter-American Metrology System (SIM)²⁹ to identify and resolve labeling conflicts. Some of these issues include the use of metric units, language differences, and other variations in labeling requirements from one country to another. It is the view of legal metrology officials around the world that allowing only metric units to be used on labels will reduce clutter and may help to improve consumer understanding of quantity and other information.

2007 Update

On September 11th September 2007 the European Union issued the following press release announcing a reconsideration of its metric-only policy and encouraging the U.S. to accept metric only in its marketplace:

Pints and miles will not disappear due to European Commission proposes to Allow Supplementary Units Indefinitely

The United Kingdom (UK) and Ireland will be allowed to keep units like the pint of beer and milk - and miles, yards, feet and inches on roads. The proposal is also important for the current trade relations with the United States as the European Commission has proposed to indefinitely extend the use of supplementary indications next to metric units. The Commission proposal is based on the results of a public consultation in early 2007, which underlined the smooth functioning of the Directive 80/181/EEC. It allows that both metric and other measurements can continue to be used in the United Kingdom and Ireland, if so desired. Vice-President Günter Verheugen, responsible for enterprise and industry policy, said: "Our proposal will stabilize the current application of EU law, which has worked well over 27 years. Extending supplementary indications indefinitely is supported by EU industry and sends a clear signal to our US counterparts that the EU

²⁸ See EU Bulletin 12-1999 at <http://europa.eu.int/abc/doc/off/bull/en/9912/p102021.htm> on the Internet. The Council Directive requiring metric-only labeling is "80/181/EEC Approximation of the Laws of the Member States on Units of Measurement." A delay in the metric-only labeling deadline approved on December 17, 1999. According to the EU Bulletin the December 31, 1999, the deadline was "extended until (the end of) 2009 to provide a transitional period during which units of measurement may be expressed in the EU using both the metric system and other systems, pending the adoption by the United States of the metric system for all important units of measurement."

²⁹ Please contact the Laws and Metric Group for a copy of the "Survey on Package Labeling for the Inter-American Metrology System."

favors a trading environment free of barriers. [In return, I hope that the USA will also accept metric-only labeled goods on its territory. This proposal also honors the culture and traditions of Great-Britain and Ireland, which are important to the European Commission.]” The Commission proposes to allow the UK and Ireland to keep the current exceptions without requiring these countries to fix a date for ending them. The exceptions concern the pint for milk in returnable bottles and beer and cider on draught, the mile for road signs and speed indications and the troy ounce for transactions in precious metals. The exception of the acre for land registration is no longer in use in either country and will be repealed. Finally the Commission clarifies the scope of the directive as being applicable to all domains covered by the current Treaties. It is therefore no longer necessary to single out certain fields of applicability. Stakeholders were consulted during the 10-week period up to 1 March 2007. The proposal follows the unanimous recommendation of industry to lift the sundown clause for the United Kingdom and Ireland and to permit indefinitely the use of supplementary indications.

Background information Directive 80/181/EEC harmonized within the EU the legal units of measurement for expressing quantities, in accordance with the metric “International System of Units” (SI) adopted by the General Conference of Weights and Measures set up by the Meter Convention signed in Paris on 20 May 1875. The SI is recognized under WTO/TBT as the international standard. The Directive ensures a common approach, removing the barriers to trade within the Internal Market due to units of measurement in line with the international standard.

The Directive allows the United Kingdom and Ireland the use exemptions and requires them to fix a date in order to phase these out. However, experience showed that these usages are local without any impact to the single market and not any impediment to cross-border trade. The Directive authorizes the use of supplementary indications in addition to the legal units of measurement laid down by the Directive, until 31 December 2009. Details of the latest proposal and the results of the public consultation are available at the following URL:

http://ec.europa.eu/enterprise/prepack/unitmeas/uni_ms_en.htm

III. How Permissible Metric-Only Labeling Will Be Implemented: Concerns and Benefits

Christopher Guay of Procter and Gamble expressed that company’s support for the initiative to allow metric labeling to be used on packages sold in the United States. Mr. Guay said that companies thrive by providing the best value to retailers and their customers, and, that they need to be able to work with retailers and their consumers to determine when and how to use metric units on that company’s products. He said current labeling regulations require redundant information to appear on packages, and this results in labels becoming too complex for most people to understand. At times, he said, “there is not enough room on labels to include other information consumers want and need.”

He also presented examples of the net quantity of contents labels Procter & Gamble uses on the packages it produces for sale in the United States and Canada. All his examples showed package labels overflowing with the required net quantity information, possibly confusing consumers more than informing them.³⁰ Mr. Guay also reported that consumers have indicated that they do not like package labels that appear to overflow with net contents information in multiple languages. Much of this overflow of net content information is a direct result of the FPLA’s dual-units along with national requirements for use of multiple languages. The examples shown in this presentation prove that labels could be simplified if manufacturers could use metric units only.

³⁰ The Procter and Gamble presentation, which includes pictures of trilingual packages, is at <http://www.nist.gov/metric> on the Internet.

Procter and Gamble supports the proposed amendment because it will allow market forces to determine when companies switch to metric labeling, most likely on a product-by-product basis. Mr. Guay discussed one option that manufacturers currently have in educating consumers and retailers about the relationships between inch-pound and metric quantities, is for packers to place the metric units either first on packages labels or in a larger type followed by the appropriate inch-pound units. Mr. Guay explained that even if the FPLA is amended, it would likely take several years for the change to have an everyday impact on packages in stores since manufacturers design packaging several years in advance. He also said to expect little change immediately since the marketplace is very competitive and "we cannot afford to alienate our consumers!" It will be important for manufacturers considering a change to metric labeling to conduct research to find out when using metric labeling would be effective. As companies introduce products with metric units, sellers can use marketing and educational efforts to promote the new packaging. This type of effort is commonly used by businesses to help customers to accept new products or to introduce changes to existing brands and it is often supported with consumer information telephone lines.

The forum marked the beginning of a collaborative effort among government, industry, and consumers to implement permissible metric labeling for products subject only to state regulation. Once FPLA is amended, it can be expanded to include all other products. Together, the working group will develop labeling and advertising guidelines for metric packages; and it can also create educational materials to assist retailers, consumers and others to better understand metric units and to encourage consumers to use unit pricing and other available information to make value comparisons.

The option to use metric units only in the net quantity of content declarations will also:

- Increase efficiencies for companies to market their products in international trade. Manufacturers will decide which method of labeling to use for both domestic and foreign markets based on the needs of their customers.
- Simplify labels and reduce confusion on products sold by volume in one market and by weight in another market (e.g., by eliminating the use of the inch-pound unit "ounce" for either volume or weight.)
- Reduce the space required for dual-unit labeling and free it up for other consumer information.

Everyone involved is concerned that consumers may not be able to make value-comparisons between similar products of various sizes if some manufacturers use the metric units option and others use inch-pound unless consumer information and education is provided in connection with the introduction of more metric packages. Consequently, coordinated action is needed to address this important issue.

Allowing metric products on the shelves alongside products with dual-unit labeling will continue to help consumers establish mental "reference points" of the metric quantities they use routinely. One of the goals of this collaborative effort will be to ensure that consumers are able to make value comparisons between products with dual-unit labeling and those labeled with only in metric units. Another goal will be to explore ways to help consumers make value comparisons on a wider range of products where unit pricing information is not generally available. Yet, another goal will be to promote uniform labeling and eliminate the use of incorrect symbols and improper quantity claims to ensure fair competition.

IV. Proposal to Amend the Fair Packaging and Labeling Act (FPLA)

a. Objectives

Amending the FPLA as proposed would give packagers greater flexibility to provide labeling information that meets the needs of their diverse consumers. Package label declarations stated in metric units would be exempt from the current requirement that declarations of net content also include inch-pound units, allowing packagers to label their products with either metric units only, or with both metric and inch-pound units.

The proposed amendment to the FPLA would help achieve the following objectives:

- Enable consumers to use metric information to make value comparisons.
- Update labeling options, allowing manufacturers to make labeling decisions based on knowledge of customer needs and the demands of their markets.
- Permit certain packagers, through increased labeling flexibility, to reduce production and packaging costs by producing fewer different labels for different markets.
- Permit packagers to continue to use existing packaging labeled with both inch-pound and SI units. This means that no producer, packager, or store would be required to take any action or incur any cost based on this amendment.
- Strengthen the ability of United States manufacturers to compete in the global marketplace.

b. Background Information on the Fair Packaging and Labeling Act.

The Fair Packaging and Labeling Act relates only to the net quantity of contents information on packages, goods, or commodities that are sold on the basis of weight or measure (i.e., it does not apply to such products as electronic or industrial equipment that have contents sold by the quantity of their contents and appliances.) Labeling requirements for packaged goods are applied to packages based on who will be the ultimate consumer. There are two classifications of products: one class is “consumer” packages that are intended for sale in retail stores, such as food or department stores. The other class is “non-consumer” packages that are intended for sale in wholesale trade, such as by a manufacturer who packages 25 kilogram bags of chemicals for sale to another manufacturer for use in producing another product. The Fair Packaging and Labeling Act requirements are not applicable to all packaged goods.

1. The FPLA requirements apply only to “consumer commodities,” including:
 - a. Foods, drugs (except prescription), and cosmetics; and these are subject to the labeling regulations of the Food and Drug Administration.
 - b. Any other article, product, or commodity of any kind or class which is customarily produced or distributed for sale through retail sales agencies or instrumentalities for consumption by individuals, or use by individuals for purposes of personal care or in the performance of services ordinarily rendered within the household, and which usually is consumed or expended in the course of such consumption or use (e.g., soaps and detergents, paper products, and waxes and polishes); and these are subject to the labeling regulations of the Federal Trade Commission.
2. The FPLA requirements do not apply to:
 - a. Packages intended for export (unless they are also intended for sale in the U.S. marketplace.)
 - b. Meat or meat product, poultry or poultry product, and some packaged agricultural seed that are subject to the labeling regulations of the U.S. Department of Agriculture.
 - c. Pesticides that are subject to the labeling regulations of the Environmental Protection Agency.
 - d. Alcohol, beer, wine and tobacco or tobacco products that are subject to the labeling regulations of the Department of Treasury.

- e. All other products that fall under the jurisdiction of State and local regulations that are based on the Uniform Packaging and Labeling Regulation (UPLR), NIST Handbook 130.
3. Some products that can already be labeled with metric units of measurement.

The following packaged products currently may be labeled in metric-only units. Many of these products have been labeled with only metric units for more than 25 years.

- a. Wine and spirits (except for beer).
- b. Camera film, videotape, audiotape, and other imaging and audio media.
- c. Packages of seed with net contents of less than 225 grams.
- d. Consumer products not covered by the FPLA. The Uniform Packaging and Labeling Regulation (NIST Handbook 130), which the States adopt to regulate most consumer products not covered by the FPLA, states, "The requirements for statements of quantity in inch-pound units shall not apply to packages that bear appropriate SI units."
- e. Non-consumer packages of any product or commodity. This includes tens of thousands of different products and commodities bought and sold in wholesale trade. However, it does not include food, drugs, meat or poultry, pesticides, and some packaged agricultural seed.

V. **Proposal to Amend the FPLA for Permissible Metric-Only Labeling**

The proposal that the coalition has developed includes proposed amendments to Section 1453 of the Fair Packaging and Labeling Act (FPLA) for permissible metric labeling. The proposed amendments would modify the FPLA to require packages to have net quantity of contents declarations in metric units, but would also allow inch-pound units to be declared as an added option. Nothing in the proposed amendments should be construed to apply to unit pricing, advertising, recipes, nutrition labeling, other general pricing information, or to require changes in package sizes.

The amendments should be adopted so they become effective well before the January 1, 2010, deadline for metric labeling in the European Union. This lead time is necessary so that U.S. regulatory agencies can promulgate metric labeling regulations, and so that those manufacturers who choose to switch to metric labeling for export purposes will have ample time to design and implement new packaging.

The complete text of the Fair Packaging and Labeling Act with the proposed amendments in their proper context is provided in Appendix B. The clauses of Section 1453 that would be amended include: (a)(2), (a)(3)(A), (a)(5), and (a)(6).

Proposed amendments to: §1453 Requirements of Labeling; Placement, Form, and Contents of Statement of Quantity; Supplemental Statement of Quantity

- i. a. **Amend (a)(2) by adding the text shown as underlined:**

(a)(2) The net quantity of contents (in terms of weight or mass, measure, or numerical count) shall be separately and accurately stated in a uniform location upon the principal display panel of that label:

(A) using the most appropriate unit of the metric system of measurement and the inch-pound measurement equivalent, except as provided in paragraph (6) of this subsection; or

(B) using only the most appropriate units of the metric system of measurement.

b. Amend (a)(2) by deleting the struck-through text:

~~(a)(2) The net quantity of contents (in terms of weight or mass, measure, or numerical count) shall be separately and accurately stated in a uniform location upon the principal display panel of that label, using the most appropriate units of both the customary inch/pound system of measure, as provided in paragraph (3) of this subsection, and except as provided in paragraph (3)(A)(ii) or paragraph (6) of this subsection, the SI metric system.~~

ii. Amend (a)(3) (A) by adding the underlined text and deleting the struck-through text:

(a)(3) The separate label statement of net quantity of contents appearing upon or affixed to any package:

(A) for those portions of the net quantity of contents statement using inch-pound units,

(ii) if on a random package, may be expressed in terms of pounds and decimal fractions of the pound carried out to not more than three decimal places; ~~and is not required to, but may include a statement in terms of the SI metric system carried out to not more than three decimal places~~

iii. Amend Section (a)(5) by inserting the underlined text as shown:

(a)(5) For purposes of paragraph (3) (A) (ii) and paragraph (6) of this subsection, the term "random package" means a package which is one of a lot, shipment, or delivery of packages of the same consumer commodity with varying weight or mass, that is, packages with no fixed weight or mass pattern.

iv. Revise (a)(6) by inserting the underlined text as shown:

(a)(6) The net quantity of contents statement for foods that are packaged at the retail store level and for random packages shall be expressed using one of three possible regimes: using only the most appropriate units of the metric system, using only the most appropriate inch-pound units, or using both metric units and inch-pound units.

Delete the struck-through text in (a)(6) as shown:

~~(a)(6) The requirement of paragraph (2) that the statement of net quantity of contents include a statement in terms of the SI metric system shall not apply to foods that are packaged at the retail store level.~~

VI. Conclusions

Over the last decade, the marketplace has gone through frequent cycles of evolution that at times are really revolutions. Today's products and stores (e.g., the vast menu of ready-to-eat foods in food stores and superstores that sell only office or building supplies) were not even imagined 10 years ago. Consumers expect the marketplace to be a source of products from around the world as they have come to expect retailers to provide them with both quality and value in addition to new products.

Permissible metric-only labeling will enable manufacturers to package and ship their products to other markets where metric units are required without burdening them with the cost of maintaining two different packages or labels for the same package because of requirements for net content labeling. While multi-lingual labeling addresses the differences in languages around the world, there is the growing reality that the metric system will become the only measurement language in the global marketplace.

It is almost certain that the European Union will require metric-only labeling at the end of 2009 and that deadline, although still several years away, is fast approaching in view of the time it would take for Congress to amend the FPLA, and then for the cognizant agencies to adopt changes in their regulations. Manufacturers will need to know long before 2009 whether they will be able to use metric packaging and labeling in the U.S. marketplace as well abroad, or whether U.S. manufacturers will be placed at a competitive disadvantage in the global marketplace.

Requiring manufacturers and importers to pay for special packaging with both inch-pound and metric units is simply untenable and will result in higher prices for consumers. Moreover, consumers need an extended time period to become accustomed to packages labeled in metric units. The gradual transition of the retail marketplace will allow the consumer to establish metric reference points for metric units through the experience of buying metric packages mixed in with common inch-pound units.

Amending the FPLA to permit metric labeling would be a step towards increased use of the metric system in the United States, helping consumers and others to use metric units on an everyday basis and to gain a greater understanding, while also allowing manufacturers and others to use packaging designed for the global marketplace. This will benefit U.S. consumers in the long term as they gain a better understanding of the measurements connected with prescription medicines and the nutritional contents of foods, which are mostly given in metric units.

Long-term benefits will result if the everyday use of the metric system increases so that industry and businesses gain efficiencies through the use of an internationally accepted and used system of measurement. Increased use of the metric system in the marketplace will reinforce the efforts of the nation's schoolteachers who teach the metric system to millions of children who currently don't have that learning reinforced outside the classroom. This is an issue worthy of attention according to one recent study by mathematics teachers who found that American students have difficulty using what they learn, stating that the "opportunity to experience the metric system in and out of school is a major factor."³¹ As use of metric units grow in the marketplace, it may be appropriate for teachers to focus more and more of their curricula primarily on the metric system. It has been said more than once that math and measurement skills are a national resource that we must both enhance and use to keep America's technology and science the best in the world. To that end we believe this effort will return benefits beyond those listed above for businesses.

Perhaps one of the clearest arguments for and latest recognition of the need for the United States to increase its everyday use of the metric system is found in an editorial by Thomas G. Dolan, Editorial Page Editor for *Barron's* on November 25, 2002. In his editorial, entitled "Measure for Measure" he says, "there are few places in the economy where the government can actually legislate American efficiency. The system of weights and measures is one of them. Congress can and should convert the country to the metric system."³²

Proving that Voluntary Metric Conversion Can Work

Amending the FPLA to permit metric labeling would show that Congress's decision in 1975 to adopt a voluntary approach to metric conversion for the United States can and will work. Congress adopted the voluntary approach to allow the marketplace to decide when and where to implement the use of metric units. That was a common sense decision because it can be done with the greatest efficiency and lowest cost when it is accomplished in coordination with routine revisions of packaging and labeling and with the introduction of new products or marketing initiatives. As long as there are legal or regulatory barriers to voluntary conversion to the metric system, we will need to continue to expend resources in working to have them changed so that the voluntary conversion works as it was intended and so that the benefits described above can be realized.

³¹ Ta Taylor, P. Mark.; Simms, Ken. Kim, Ok-Kyeong. *Teaching Children Mathematics* v. 7 no. 5 (Jan. 2001) p. 282-7

³² Thomas G. Dolan, "Measure for Measure - It's time for the United States to join the world in using the metric system." *Barron's*. (Nov. 25, 2002) p. 35.

Appendix A. European Union Letter regarding Metric Labeling Directive



EUROPEAN UNION
DELEGATION OF THE EUROPEAN COMMISSION

Mr. Kenneth S. Butcher
The National Institute of Standards
And Technology
Weights and Measures Division
Law and Metric Group
100 Bureau Drive MS 2000
Gaithersburg MD 20899-2000

November 18, 2002

Dear Mr. Butcher,

Subject: Metric Only Labeling

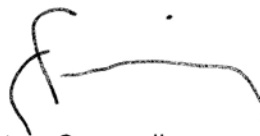
The European Commission welcomes the NIST Metric Program. The United States is the only country in the world that does not accept metric-only labeling, even though the US was one of the founding States of the Metric Convention in 1875.

From 1999, all products on the European Union market must be metric labeled. Even though EU Member States do not use non-metric sizes any more, the transition period, during which the mention of additional non-metric units on labels is tolerated, will run till the end of 2009. After 2009, the EU will allow only metric indications, which is in accordance with international standards.

The European Commission is of the opinion that a uniform worldwide system of measurements can only be achieved if the US follows the rest of the world and adopts the International System.

The European Commission therefore looks forward to the day when metric-only labeling is accepted all over the US.

Sincerely,



Petros Sourmelis
Counselor, Head of Trade Section

**Appendix B. The Fair Packaging and Labeling Act
with
Proposed Amendments Shown in Context.**

TITLE 15 - COMMERCE AND TRADE -- CHAPTER 39 - FAIR PACKAGING AND LABELING PROGRAM

§1451. Congressional Delegation of Policy.

Informed consumers are essential to the fair and efficient functioning of a free market economy. Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparisons. Therefore, it is hereby declared to be the policy of the Congress to assist consumers and manufacturers in reaching these goals in the marketing of consumer goods.

§1452. Unfair and Deceptive Packaging and Labeling: Scope of Prohibition.

(a) Nonconforming labels - It shall be unlawful for any person engaged in the packaging or labeling of any consumer commodity (as defined in this chapter) for distribution in commerce, or for any person (other than a common carrier for hire, a contract carrier for hire, or a freight forwarder for hire) engaged in the distribution in commerce of any packaged or labeled consumer commodity, to distribute or to cause to be distributed in commerce any such commodity if such commodity is contained in a package, or if there is affixed to that commodity a label, which does not conform to the provisions of this chapter and of regulations promulgated under the authority of this chapter.

(b) Exemptions - The prohibition contained in subsection (a) of this section shall not apply to persons engaged in business as wholesale or retail distributors of consumer commodities except to the extent that such persons (1) are engaged in the packaging or labeling of such commodities, or (2) prescribe or specify by any means the manner in which such commodities are packaged or labeled.

§1453. Requirements of Labeling; Placement, Form, and Contents of Statement of Quantity; Supplemental Statement of Quantity.

(a) Contents of label - No person subject to the prohibition contained in section 1452 of this title shall distribute or cause to be distributed in commerce any packaged consumer commodity unless in conformity with regulations which shall be established by the promulgating authority pursuant to section 1455 of this title which shall provide that -

(1) The commodity shall bear a label specifying the identity of the commodity and the name and place of business of the manufacturer, packer, or distributor;

(2) The net quantity of contents (in terms of weight or mass, measure, or numerical count) shall be separately and accurately stated in a uniform location upon the principal display panel of that label:

(A) using the most appropriate unit of the metric system of measurement and the inch-pound measurement equivalent, except as provided in paragraph (6) of this subsection; or

(B) using only the most appropriate units of the metric system of measurement.

~~(2) The net quantity of contents (in terms of weight or mass, measure, or numerical count) shall be separately and accurately stated in a uniform location upon the principal display panel of that label, using the most appropriate units of both the customary inch/pound system of measure, as provided in paragraph (3) of this subsection, and except as provided in paragraph (3)(A)(ii) or paragraph (6) of this subsection, the SI metric system.~~

(3) The separate label statement of net quantity of contents appearing upon or affixed to any package -

(A) for those portions of the net quantity of contents statement using inch-pound units,

(i) if on a package labeled in terms of weight, shall be expressed in pounds, with any remainder in terms of ounces or common or decimal fractions of the pound; or in the case of liquid measure, in the largest whole unit (quarts, quarts and pints, or pints, as appropriate) with any remainder in terms of fluid ounces or common or decimal fractions of the pint or quart;

(ii) if on a random package, may be expressed in terms of pounds and decimal fractions of the pound carried out to not more than three decimal places; ~~and is not required to, but may include a statement in terms of the SI metric system carried out to not more than three decimal places~~

(iii) if on a package labeled in terms of linear measure, shall be expressed in terms of the largest whole unit (yards, yards and feet, or feet, as appropriate) with any remainder in terms of inches or common or decimal fractions of the foot or yard;

(iv) if on a package labeled in terms of measure of area, shall be expressed in terms of the largest whole square unit (square yards, square yards and square feet, or square feet, as appropriate) with any remainder in terms of square inches or common or decimal fractions of the square foot or square yard;

(B) shall appear in conspicuous and easily legible type in distinct contrast (by topography, layout, color, embossing, or molding) with other matter on the package;

(C) shall contain letters or numerals in a type size which shall be (i) established in relationship to the area of the principal display panel of the package, and (ii) uniform for all packages of substantially the same size; and

(D) shall be so placed that the lines of printed matter included in that statement are generally parallel to the base on which the package rests as it is designed to be displayed; and

(4) The label of any package of a consumer commodity which bears a representation as to the number of servings of such commodity contained in such package shall bear a statement of the net quantity (in terms of weight or mass, measure, or numerical count) of each such serving.

(5) For purposes of paragraph (3)(A)(ii) and paragraph (6) of this subsection the term "random package" means a package which is one of a lot, shipment, or delivery of packages of the same consumer commodity with varying weights or masses, that is, packages with no fixed weight or mass pattern.

(6) The net quantity of contents statement for foods that are packaged at the retail store level and for random packages shall be expressed using one of three possible regimes: using only the most appropriate units of the metric system, using only the most appropriate inch-pound units, or using both the metric units and inch-pound units.

~~(6) The requirement of paragraph (2) that the statement of net quantity of contents include a statement in terms of the SI metric system shall not apply to foods that are packaged at the retail store level.~~

(b) Supplemental statements

No person subject to the prohibition contained in section 1452 of this title shall distribute or cause to be distributed in commerce any packaged consumer commodity if any qualifying words or phrases appear in conjunction with the separate statement of the net quantity of contents required by subsection (a) of this section, but nothing in this subsection or in paragraph (2) of subsection (a) of this section shall prohibit supplemental statements, at other places on the package, describing in nondeceptive terms the net quantity of contents: Provided, That such supplemental statements of net quantity of contents shall not include any term qualifying a unit of weight or mass, measure, or count that tends to exaggerate the amount of the commodity contained in the package.

§1454. Rules and Regulations.

(a) Promulgating authority - The authority to promulgate regulations under this chapter is vested in (A) the Secretary of Health and Human Services (referred to hereinafter as the "Secretary") with respect to any consumer commodity which is a food, drug, device, or cosmetic, as each such term is defined by section 321 of title 21; and (B) the Federal Trade Commission (referred to hereinafter as the "Commission") with respect to any other consumer commodity.

(b) Exemption of commodities from regulations - If the promulgating authority specified in this section finds that, because of the nature, form, or quantity of a particular consumer commodity, or for other good and sufficient reasons, full compliance with all the requirements otherwise applicable under section 1453 of this title is impracticable or is not necessary for the adequate protection of consumers, the Secretary or the Commission (whichever the case may be) shall promulgate regulations exempting such commodity from those requirements to the extent and under such conditions as the promulgating authority determines to be consistent with section 1451 of this title.

(c) Scope of additional regulations - Whenever the promulgating authority determines that regulations containing prohibitions or requirements other than those prescribed by section 1453 of this title are necessary to prevent the deception of consumers or to facilitate value comparisons as to any consumer commodity, such authority shall promulgate with respect to that commodity regulations effective to -

(1) establish and define standards for characterization of the size of a package enclosing any consumer commodity, which may be used to supplement the label statement of net quantity of contents of packages containing such commodity, but this paragraph shall not be construed as authorizing any limitation on the size, shape, weight or mass, dimensions, or number of packages which may be used to enclose any commodity;

(2) regulate the placement upon any package containing any commodity, or upon any label affixed to such commodity, of any printed matter stating or representing by implication that such commodity is offered for retail sale at a price lower than the ordinary and customary retail sale price or that a retail sale price advantage is accorded to purchasers thereof by reason of the size of that package or the quantity of its contents;

(3) require that the label on each package of a consumer commodity (other than one which is a food within the meaning of section 321(f) of title 21) bear (A) the common or usual name of such consumer commodity, if any, and (B) in case such consumer commodity consists of two or more ingredients, the common or usual name of each such ingredient listed in order of decreasing predominance, but nothing in this paragraph shall be deemed to require that any trade secret be divulged; or

(4) prevent the nonfunctional-slack-fill of packages containing consumer commodities. For purposes of paragraph (4) of this subsection, a package shall be deemed to be nonfunctionally slack-filled if it is filled to substantially less than its capacity for reasons other than (A) protection of the contents of such package or (B) the requirements of machines used for enclosing the contents in such package.

(d) Development by manufacturers, packers, and distributors of voluntary product standards - Whenever the Secretary of Commerce determines that there is undue proliferation of the weights or masses, measures, or quantities in which any consumer commodity or reasonably comparable consumer commodities are being distributed in packages for sale at retail and such undue proliferation impairs the reasonable ability of consumers to make value comparisons with respect to such consumer commodity or commodities, he shall request manufacturers, packers, and distributors of the commodity or commodities to participate in the development of a voluntary product standard for such commodity or commodities under the procedures for the development of voluntary products standards established by the Secretary pursuant to section 272 of this title. Such procedures shall provide adequate manufacturer, packer, distributor, and consumer representation.

(e) Report and recommendations to Congress upon industry failure to develop or abide by voluntary product standards - If (1) after one year after the date on which the Secretary of Commerce first makes the request of manufacturers, packers, and distributors to participate in the development of a voluntary product standard as provided in subsection (d) of this section, he determines that such a standard will not be published pursuant to the provisions of such subsection (d), or (2) if such a standard is published and the Secretary of Commerce determines that it has not been observed, he shall promptly report such determination to the Congress with a statement of the efforts that have been made under the voluntary standards program and his recommendation as to whether Congress should enact legislation providing regulatory authority to deal with the situation in question.

§1455. Procedures for Promulgation of Regulations.

(a) Hearings by Secretary of Health and Human Services - Regulations promulgated by the Secretary under section 1453 or 1454 of this title shall be promulgated, and shall be subject to judicial review, pursuant to the provisions of subsections (e), (f), and (g) of section 371 of title 21. Hearings authorized or required for the promulgation of any such regulations by the Secretary shall be conducted by the Secretary or by such officer or employees of the Department of Health and Human Services as he may designate for that purpose.

(b) Judicial review; hearings by Federal Trade Commission - Regulations promulgated by the Commission under section 1453 or 1454 of this title shall be promulgated, and shall be subject to judicial review, by proceedings taken in conformity with the provisions of subsections (e), (f), and (g) of section 371 of title 21 in the same manner, and with the same effect, as if such proceedings were taken by the Secretary pursuant to subsection (a) of this section. Hearings authorized or required for the promulgation of any such regulations by the Commission shall be conducted by the Commission or by such officer or employee of the Commission as the Commission may designate for that purpose.

(c) Cooperation with other departments and agencies - In carrying into effect the provisions of this chapter, the Secretary and the Commission are authorized to cooperate with any department or agency of the United States, with any State, Commonwealth, or possession of the United States, and with any department, agency, or political subdivision of any such State, Commonwealth, or possession.

(d) Returnable or reusable glass containers for beverages - No regulation adopted under this chapter shall preclude the continued use of returnable or reusable glass containers for beverages in inventory or with the trade as of the effective date of this Act, nor shall any regulation under this chapter preclude the orderly disposal of packages in inventory or with the trade as of the effective date of such regulation.

§1456. Enforcement.

(a) Misbranded consumer commodities - Any consumer commodity which is a food, drug, device, or cosmetic, as each such term is defined by section 201 of the Federal Food, Drug, and Cosmetic Act (21 US C. 321), and which is introduced or delivered for introduction into commerce in violation of any of the provisions of this chapter, or the regulations issued pursuant to this chapter, shall be deemed to be misbranded within the meaning of chapter III of the Federal Food, Drug, and Cosmetic Act (21 USC 331 et

seq.), but the provisions of section 303 of that Act (21 USC. 333) shall have no application to any violation of section 1452 of this title.

(b) Unfair or deceptive acts or practices in commerce - Any violation of any of the provisions of this chapter, or the regulations issued pursuant to this chapter, with respect to any consumer commodity which is not a food, drug, device, or cosmetic, shall constitute an unfair or deceptive act or practice in commerce in violation of section 45(a) of this title and shall be subject to enforcement under section 45(b) of this title.

(c) Imports - In the case of any imports into the United States of any consumer commodity covered by this chapter, the provisions of sections 1453 and 1454 of this title shall be enforced by the Secretary of the Treasury pursuant to section 801(a) and (b) of the Federal Food, Drug, and Cosmetic Act (21 USC. 381).

§1457. Annual Reports to Congress: Submission Dates.

Each officer or agency required or authorized by this chapter to promulgate regulations for the packaging or labeling of any consumer commodity, shall transmit to the Congress each year a report containing a full and complete description of the activities of that officer or agency for the administration and enforcement of this chapter during the preceding fiscal year. All agencies except the Department of Health and Human Services and the Federal Trade Commission shall submit their reports in January of each year. The Department of Health and Human Services shall include this report in its annual report to Congress on activities under the Federal Food, Drug, and Cosmetic Act (21 USC. 301 et seq.), and the Federal Trade Commission shall include this report in the Commission's annual report to Congress.

§1458. Cooperation with State Authorities; Transmittal of Regulations to States; Noninterference with Existing Programs.

(a) A copy of each regulation promulgated under this chapter shall be transmitted promptly to the Secretary of Commerce, who shall (1) transmit copies thereof to all appropriate State officers and agencies, and (2) furnish to such State officers and agencies information and assistance to promote to the greatest practicable extent uniformity in State and Federal regulation of the labeling of consumer commodities.

(b) Nothing contained in this section shall be construed to impair or otherwise interfere with any program carried into effect by the Secretary of Health and Human Services under other provisions of law in cooperation with State governments or agencies, instrumentalities, or political subdivisions thereof.

§1459. Definitions.

For the purpose of this chapter -

(a) The term "consumer commodity", except as otherwise specifically provided by this subsection, means any food, drug, device, or cosmetic (as those terms are defined by the Federal Food, Drug, and Cosmetic Act (21 USC. 301 et seq.)), and any other article, product, or commodity of any kind or class which is customarily produced or distributed for sale through retail sales agencies or instrumentalities for consumption by individuals, or use by individuals for purposes of personal care or in the performance of services ordinarily rendered within the household, and which usually is consumed or expended in the course of such consumption or use.

Such term does not include -

(1) any meat or meat product, poultry or poultry product, or tobacco or tobacco product;

(2) any commodity subject to packaging or labeling requirements imposed by the Secretary of Agriculture pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC. 136 et seq.), or the provisions of the eighth paragraph under the heading "Bureau of Animal Industry" of the Act of March 4, 1913 (21 USC. 151 et seq.), commonly known as the Virus-Serum-Toxin Act;

(3) any drug subject to the provisions of section 503(b)(1) or 506 of the Federal Food, Drug, and Cosmetic Act (21 USC. 353(b)(1) and 356);

(4) any beverage subject to or complying with packaging or labeling requirements imposed under the Federal Alcohol Administration Act (27 USC. 201 et seq.); or

(5) any commodity subject to the provisions of the Federal Seed Act (7 USC. 1551 et seq.).

(b) The term "package" means any container or wrapping in which any consumer commodity is enclosed for use in the delivery or display of that consumer commodity to retail purchasers, but does not include -

(1) shipping containers or wrappings used solely for the transportation of any consumer commodity in bulk or in quantity to manufacturers, packers, or processors, or to wholesale or retail distributors thereof;

(2) shipping containers or outer wrappings used by retailers to ship or deliver any commodity to retail customers if such containers and wrappings bear no printed matter pertaining to any particular commodity; or

(3) containers subject to the provisions of the Act of August 3, 1912 (37 Stat. 250, as amended; 15 USC. 231-233), or the Act of March 4, 1915 (38 Stat. 1186, as amended; 15 USC. 234-236).

(c) The term "label" means any written, printed, or graphic matter affixed to any consumer commodity or affixed to or appearing upon a package containing any consumer commodity.

(d) The term "person" includes any firm, corporation, or association.

(e) The term "commerce" means (1) commerce between any State, the District of Columbia, the Commonwealth of Puerto Rico, or any territory or possession of the United States, and any place outside thereof, and (2) commerce within the District of Columbia or within any territory or possession of the United States not organized with a legislative body, but shall not include exports to foreign countries.

(f) The term "principal display panel" means that part of a label that is most likely to be displayed, presented, shown, or examined under normal and customary conditions of display for retail sale.

§1460. Savings Provisions.

Nothing contained in this chapter shall be construed to repeal, invalidate, or supersede - (a) the Federal Trade Commission Act (15 USC. 41 et seq.) or any statute defined therein as an antitrust Act; (b) the Federal Food, Drug, and Cosmetic Act (21 USC. 301 et seq.); or (c) the Federal Hazardous Substances Labeling Act (15 USC. 1261 et seq.).

§1461. Effect Upon State Law.

It is hereby declared that it is the express intent of Congress to supersede any and all laws of the States or political subdivisions thereof insofar as they may now or hereafter provide for the labeling of the net quantity of contents of the package of any consumer commodity covered by this chapter which are less stringent than or require information different from the requirements of section 1453 of this title or regulations promulgated pursuant thereto.