# U.S. METRIC CONVERSION: Rough Road Ahead

Early industry and government conversion efforts are happening in the midst of overt resentment and disapproval by the citizenry

BY MICHAEL A. GUILLEN

*"Weights and measures may be ranked among the necessaries of life to every individual of human society. The knowledge of them . . . is often learned by those who learn nothing else, not even to read and write."*

—John Quincy Adams, 1821

*"I think installing the metric system is one of the most idiotic things the government can do. Have you gone completely crazy? Come to your senses!"*

—Marjorie N. Evarts, resident of Hamden, Conn., 1977

Over a century after the United States first legalized the use of the original, French metric system, the country is now just in the early phases of a deliberate, but voluntary program of metric conversion. It is an undertaking that bucks one of society's most formidable obstacles: the individual's natural resistance to change—especially the kind he or she doesn't understand.

A recent Gallup poll indicated that 74 percent of Americans are "aware" of the metric system, but only 29 percent of them favor the country's conversion to it. More revealing, perhaps, is that only 13 percent of all those polled could give the correct number of inches in a meter, and only 1 percent knew how many liters are in a gallon.

A few weeks ago, the Federal Highway Administration abandoned, for the time being, its intention to convert highway speed signs to read in "kilometers per hour" by 1980. During a 45-day solicitation of public reaction to their proposal, the FHA received an overwhelmingly negative response. Congressional support was also much less than encouraging. Rejoicing over the recent announcement, Rep. Charles E. Grassley (R-Iowa) said, "Forcing the American people to convert to the metric system goes against our democratic principles. The Highway Administration's action guarantees that the public will not be forced to adjust to a foreign system of measurement."

The decision to change from our present system of English units (Great Britain is almost fully converted) was formally made on Dec. 23, 1975, when President Ford signed into law the Metric Conversion Act. Its mandate is notably noncoercive and states only that "the policy of the United States shall be to coordinate and plan the increasing use of the metric system . . . and establish a United States Metric Board to coordinate the voluntary conversion." (The Act refers to the popular International System of metric units, a modernized version of the original system.)

The board's 17 members, who have no legal authority to enforce any changeover program, were already once nominated by President Ford but currently are being reevaluated by President Carter's staff. A spokesman for the White House personnel office reported that a decision regarding the nominees will be announced within the next several weeks.

In the interim, one of the main coordinators of the nation's conversion movement has been the American National Metric Council, a Washington-based nonprofit, private organization. Its 1,600 subscriber-members include industries, trade and professional organizations and individuals.

During the recent ANMC third annual conference and exposition in Chicago, Rep. Robert McClory (R-Ill.) lamented the absence of an operational Metric Board and cautioned (the efforts of the ANMC apparently notwithstanding), "We seem to have experienced a kind of drift, a haphazard kind of action in government agencies, in our state legislatures, some of our educational systems and even in industry." He charged that "our country's commitment to convert to the metric system is badly coordinated and seems to provide no assurance as to when or whether there will be an overall adoption of the metric system."

A survey of the United States' progress seems to corroborate McClory's assessment. Although there have already been yeoman and even conspicuous conversion efforts, there exist significant disorientation, dissension, skepticism, reticence and outright resistance among the influential sectors of government and private industry.

Thomas A. Hannigan, ranking member of the International Brotherhood of Electrical Workers, expressed to the ANMC conferees his incredulity about anyone expecting the United States to fully convert. "Unrealistic goals such as preparing 220 million people to 'think' metric is . . . dangerous and expensive. Failure is an inevitable conclusion." He believes the wisest option is to adopt a hybrid system of customary and metric units, which will "maximize benefits and minimize costs."

He also criticized the tenor of current public metric education which stresses the so-called simplicities of metrication. "For a large segment of the population, learning the new measurement system will not be simple and to stress repeatedly [otherwise] is an insult [to them]."

Typical of many others, the electronics industry intends to convert primarily at a pace established by its consumers' requests. Others, like the lumber and metal manufacturers, are preoccupied with establishing, in metric units, new standard sizes and tolerances for building materials. This is especially crucial for the construction industry, which relies on using parts that match or fit with predictable accuracy.

One of the major obstacles to voluntary conversion is the absence of motivation to do so. Referring to the lumber industry, Robert A. Hewett of the National Forest Products Association said, "There are very few segments that see an advantage in metrication. Don't expect it to happen before the mid-1980s." Tentative indications are, however, that the thickness and width of lumber will only be "soft converted," but the lengths will be cut in "300-millimeter increments, rather than the nearest foot." Soft conversion involves a simple translation of current dimensions to their metric equivalents, usually yielding awkward metric numbers like 32.9685 centimeters. Hard conversion entails a physical alteration of a product's dimensions in order to make them rounded metric sizes, like 33 centimeters.

Dean Swift, president of Sears Roebuck and Co., warned the United States not to repeat "the pitfalls other nations encountered and [to] benefit from their hindsight." He also stressed the importance of keeping the public well informed and involved to avoid a situation like the recent one in Britain: A consumer advised another to postpone her purchase of some carpet until after the country went metric, because then "she would need a lot less carpet."

Describing Sears's plans to fully convert by the mid-1980s, he said: "We reject dual labeling of our products except in cases where it's absolutely necessary. It adds to the confusion and serves little educational function." Several apparel (and other) manufacturers, like Levi Strauss and Co., are currently using labels printed both with the customary description and its metric equivalent.


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*Metric speedometers are becoming standard equipment. But fate of signs is in question.*

There is optimism among apparel manufacturers that the metric changeover is a disguised golden opportunity to "wipe the slate clean" and establish, at long last, a sensible sizing scheme. "What does it mean when a woman wears a size 12 dress?" Swift asked rhetorically. "12 what? It is an arbitrary number that really refers to nothing and is based on body-measurement research conducted much too long ago."

Swift also served notice to suppliers that Sears is fully committed to the change. "Small business—the cornerstone of Sears's supply operation—must play an important role."

It doesn't seem, however, that people having small businesses are presently prepared, or inclined, to fulfill the task. "There are some 5 to 6 million small businessmen in this country, employing about half the total workforce of the private sector, but very few of them are involved [in metrication] as yet," according to Carl A. Beck of the National Small Business Association.

"Most of the small business community ... doesn't really know about ANMC, let alone the Metric Conversion Act," he told the ANMC conference. In a 1976 inquiry by the U.S. Bureau of the Census, questions like, "Do you keep records or prepare estimates in metric units?" were answered in the affirmative by only a few percent of the companies.

For many large American corporations, on the other hand, metric conversion is a belated blessing, because they have already been trading with the long-converted European market for some time. They have manufacturing facilities in the United States and abroad that routinely make European (i.e. metric) versions of their products. For these multinational companies, the metrication effort promises convenience and an efficient consolidation of their resources.

Even more provocative is the international directive requiring that by April 1978 an exclusively metric description accompany all products exported to the nine-nation Common Market. Dual dimensioning will be allowed only if it does not cause confusion.

Among those profoundly affected by this international law are the wine and distilled spirits industries, which are also regulated by the U.S. Department of Treasury. In March 1976, the Department's Bureau of Alcohol, Tobacco and Firearms announced that liquor containers, in specified sizes, were to be completely metric by Dec. 31, 1979.

The new regulations will reduce the total, and often confusing, variety of bottle sizes for distilled spirits from 10 to 6 and wines from no less than 27 to 7.

The National Distillers Products Co., one of the largest U.S. liquor producers, has already recently replaced its ½-gallon with the required 1.75-liter size. Some consumers are skeptical about the alteration, however, complaining that the price reduction is not commensurate with the size reduction (7.5 percent).

This kind of consumer reaction is not uncommon and concerns many industries contemplating a changeover strategy. Much of the difficulty is caused, say those speaking on behalf of industry, by the consumer's unawareness that a diminution of net contents can't necessarily be accompanied by a similar decrease in price, because packaging, labor and overhead don't diminish proportionally.

There are psychological problems associated with metric conversion. The Dr Pepper Co. has been selling its product in two different-sized liter bottles: a squatty, tear-drop shape and a taller, conventional one. It has found that many consumers prefer the taller shape, thinking, perhaps, that they are getting more soda for the money. Others, nonetheless, prefer the shorter bottle, because it fits easier in the refrigerator.

Many companies with no immediate intention to convert complain about the costs such a change would entail. "Can machinery is very expensive," said James Wroble of Anheuser-Busch, Inc., largest brewer in the United States. To replace it would entail an impractical and presently unwarranted expense. The company has, however, initiated a metric education program for many of its employees.

A common, but formidable difficulty with metrication arises in industries dependent on interrelated components. A new container size will require a different-sized shipping carton, which changes the ideal dimensions of a loading pallet, which further requires that the separation of a forklift's tines be altered.

One of the most extensive orchestrated conversion efforts involves the U.S. National Weather Service. It is proposing that by January 1979 all government weather reporting be done entirely in metric units.

The NWS has suggested a schedule starting June 1978 whereby one by one the various aspects of a typical weather report will be converted—temperature first, then precipitation, then wind speed; each facet will be reported in dual units to begin with and one or two months later in metric units alone.

As a consequence of suggestions and criticisms received during a June 30 public hearing in Washington on this matter, however, the NWS intends to revise the proposal. The amended plan will be submitted to the (by then operational) U.S. Metric Board for final approval.

The public hearing, mostly attended by industry and media representatives, revealed mixed reaction for and against the NWS metric proposal. Citizens' letters, however, are "hostile" and running about 10 to 1 against the conversion scheme, according to Len Boselovic of ANMC, which is receiving the invited correspondence on behalf of the NWS.

Use of the metric system in the United States is growing more visible. Billboards advertise how many liters are in a gallon; the outfield wall of Busch Stadium in St. Louis is marked with conventional and metric distances; NATIONAL GEOGRAPHIC magazine will begin to print dual measurements wherever appropriate in its publication; the U.S. Geological Survey will begin to revise all its maps; the volumes of several makes of automobile engines are expressed in liters; and each of an increasing number of Boy Scouts is now required to know his metric height and weight.

Although converting the United States from its use of English units to metric ones may seem like a Herculean task, success is inevitable. Industry will convert largely for reasons of financial self-interest and government for reasons of propriety. To be sure, the inducements for an individual are not as lucrative nor compelling.

Metrication will not improve the weather, increase the number of eggs in a dozen, improve a car's mileage nor eliminate bureaucratic red tape. For many, use of metric units will cause severe mental strain and elicit emotional disapproval, but ultimately, proponents believe, it will simplify measurements and make more common sense. □