

Preparing a Metrification Program in a Company

We are on the threshold of converting to the International System of Units commonly called the metric system. The following procedure is set forth as a guide toward accomplishing as efficient a changeover in industry as possible.

by W. H. Featherly

PREPARING THE PROGRAM

In setting up a changeover procedure to the metric system, the main rule is: Do not convert to the metric system, learn it new. You must think metric and teach others to do so. This is like a foreign language, and you cannot use it fluently if you must constantly translate into it.

We always learn by association, and the more vivid the association, the better and faster we learn. So, whether this is for your own education or the teaching of others, use vivid physical examples that can be "played" with. If a person can pick up a 1 kg weight, he will know a lot more about the metric system than if he is told that it equals 2.205 lb. This method may seem very basic and even childish to most adults, but isn't this the same way we learned the present system?

While the teaching should be based on learning the system from scratch, there will have to be much actual work on converting existing drawings, materials tools and parts. It is best to have two lists of conversion figures—one an abbreviated list for general, immediate use and a complete list which would be given out later. There are two reasons for this: (a) the complete list will scare some people and produce negative thinking, and (b) a lot of time will be wasted going through the longer list each time you need to look up a different factor.

A very good standard for setting up the necessary conversion tables and tolerances is the ASTM pamphlet F.380-70 "Metric Practice Guide."

SETTING UP THE SESSIONS

The next step is to set up introduction and educational sessions. These sessions should be aimed at three basic groups. Group One should have the most thorough understanding and will be composed of those who must know all the basics of the metric system in order to do their jobs. Spare no pains to insure a complete understanding, as a successful changeover will depend more on this group than any other. In the second group, there will be the people that

come in contact with the system after it has been initiated. It will not be necessary for this group to be instructed in tolerances, rounding off, and other specific aspects of the system, but they must have a good general background. The third group will be the most challenging to teach, as it will contain those employees who do not need an actual working knowledge of the metric system for their job, but will need a general knowledge of it in their daily life.

The first two groups can be taught the system as it relates to their work; however, the third group should be taught using example problems that can be applied to their grocery shopping, cooking, carpentry, farming, hobbies, etc.

Since each company's structure and needs will vary greatly, there has been no attempt made to categorize any particular profession into one of these groups. It would even be advisable in the introduction with each group to ask whether anyone felt that they should be in a different group.

SUBJECTS TO BE COVERED

Once the groups are established the curriculum for each can be determined. Prepare an outline to insure that everything is covered thoroughly. It may vary from group to group in the amount of detail covered, but it will maintain the same general form and will probably look something like the following.

- 1 Familiarization
History of the system
Why change
Timetable for changeover in the country
- 2 Individual Involvement
Company program — company schedule for changeover
- 3 Classes
Learning the different units
(a) Physical examples
(b) Charts
(c) Conversion tables
Problems in the metric system
Problems in conversion

The filling in of this outline would be determined by the thoroughness and

depth each industry needs in its own changeover.

SUPPLIER'S TIMETABLE

Next, one must find out what provisions his various suppliers are making to change over to the metric system. This should be done through buyers or purchasing agents. Do not forget, as in any project, the more people that are positively involved, the fewer problems you will experience. In a simple form letter to each supplier, state briefly your intentions and ask how and when he is going to change over in relation to the products you purchase from him. Do not forget that this goes for foreign suppliers also, as many of them have tooling based on inches, ounces, and gallons despite their being basically metric.

When you are the supplier, do not feel that you should wait to hear from your customers to find out what their intentions are. A discreet letter asking for their advice in your changeover will get things moving without making your customers feel that they are being pushed. The earlier you get an overall picture of what must be done, the less it will cost in the long run.

YOUR COMPANY TIMETABLE

With the foregoing steps being planned or underway, the next problem is to set up a changeover time table for your company. The departmental order for this changeover may vary from plant to plant in the same company, and the actual time needed to accomplish this change will vary from a few weeks to many years. With this in mind, the most that can be presented for a general application is a list of the most common divisions within a company and the items that will be of major concern to each division.

1. Drafting: Early basic knowledge; tolerances and converting.
2. Design Engineering: Basic Knowledge; tolerances and conversion; vendors' timetables; company's timetable.
3. Industrial Engineering: Basic knowledge; vendors' timetables, company's timetable.
4. In-Plant Toolmakers: Basic knowledge and tolerances; existing

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equipment changeover; company's timetable; vendors' timetables.

5. Quality Control (Inspection): General knowledge; tolerances; customers' timetables; equipment changes (e.g. gages).
6. Styling: General knowledge; new aesthetic modules; long styling leads.
7. Receiving Inspection: General knowledge; vendors' timetables.
8. Buyers: General knowledge; vendors' timetables.
9. Scheduling: General knowledge; company's timetable; vendors' timetables.
10. Manufacturing: General knowledge; company's timetable.
11. Personnel: General knowledge; company's timetable.
12. Accounting: General knowledge; company's timetable.
13. Data Processing: General knowledge; company's timetable.
14. Marketing: General knowledge; customers' timetables; company's timetable.

While the foregoing outline is presented in a logical order for change, it will become immediately apparent for each user that he must swap some divisions and or delete others for his own change to the metric system.

COMMUNITY INVOLVEMENT

During the nation's change to the metric system, it will not be unusual for an industry, especially in urban and rural areas, to become the community leader in this change. This should not be looked upon as a burden but as an opportunity to build up good community relations.

There are many inexpensive, even profitable, ways to approach this. For instance, advertising handouts in many forms containing basic metric information and conversion tables; lectures given at local schools on the system should leave a favorable impression of your company on the students.

There are many companies that will be able to introduce entire product lines aimed at promoting the conversion to the system. Keeping your local vendors personally informed and updated cannot help but produce a better working relationship later on. This will be an expensive and time-consuming endeavor, and cooperation with everyone is going to be essential.

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