STATUS REPORT ON METRICATION

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My comments today re metrication of the softwood industry in North America, has little to do with lumber drying, however, sooner or later we must all become knowledgeable of the metric system and its effect on our industry. Preparation and understanding is the keystone to successful changes.

In the next few minutes, I will attempt to outline some of the work that has been done to prepare for metric conversion of the Canadian Softwood Industry and indicate how we, as members of this industry, might be affected.

Those of us who have been involved with metric conversion for the past few years, know how Christopher Columbus felt when he set sail for the New World. Initially we didn't know where we were going, how we would get there, how long it would take, and finally where we would be upon arrival. Like Christopher Columbus, we oft times wondered why we ever did set sail.

I am pleased to report however, that a great deal of progress has been made since those early meetings. We now have a good indication of what has to be done to prepare for metric conversion and how long it might take. Also, as of last December, we have a recommended Canadian position dealing with timing, units of measurement, sizes and the practices to be followed when Canada does go metric.

Perhaps I should review a little bit of the background before getting into specifics.

Metric conversion became a fact of life in Canada in 1970 when the Canadian government introduced a White Paper committing Canada to go metric. There were three major reasons given for this:

(a) Improve export trade;
(b) Provide us with a simple system of weights and measures;
(c) Put Canada in step with the rest of the world. Ninety percent of world's population now on metric, leaving the North American continent on the Imperial system.

As a result of the White Paper, the Metric Commission of Canada was formed in June, 1971. The sole function of the Commission was to corrdinate an orderly conversion to metric. Eleven Steering Committees were established under the Metric Commission, one for each sector of the economy. We are primarily concerned with Steering Committee No. 8 which deals with the forest industry and is chaired by Mr. Gordon Draeseke.

Under each Steering Committee there is an extensive pyramid of Sector Committees and Sector Sub-Committees that deal with the individual product lines. I must emphasize that the Metric Commission is not a decision making body. Its sole function is to provide coordination of activities between the various sectors of the economy.

Metric conversion will be voluntary, each industry is responsible for their own investigation, planning, scheduling and implementation. Member companies of industry and associations submit their recommendations to appropriate Sector Sub-Committee, where they are discussed and ultimately passed on to the appropriate Steering Committee. All recommendations are carefully monitored within the Metric Commission to ensure that conflicts particularly in allied industries do not arise.

Timing

As far as timing is concerned, the Canadian government has set January 1, 1980 as the target date for metric conversion. By that date, it is the hope of the government that virtually 100 percent of the Canadian economy will be operating on the metric system. But as mentioned earlier, each sector will establish its own schedule. Everyone is not going to convert at one time. Metric conversion will be phased in. This is already evident.

For example:

(a) Weather forecasts: We have been getting temperatures quoted to us in degrees Celcius for some time now and we are recently starting to get precipitation quoted in millimetres.

(b) Toothpaste: Those of you have been able to get over the shock of the price tag on a tube of toothpaste may have noticed that the tube size is now in millilitres, rather than ounces.

(c) Wine: Those of you are so inclined may have noticed that half litre bottles and litre bottles are now starting to appear on Liquor Board shelves.

(d) Highway Signs: There are already a few highway signs in use which list distances in kilometres. By the end of 1977 it is planned that virtually all highway signs will be converted.

Of major interest to us is the construction industry. They are advocating January, 1978 as M-day. By that date, it is anticipated that all design and layout will be done using metric units. Metric will be introduced to the construction site as these projects are initiated.

The construction industry's target date caused us in the forest industry some concern initially because it was evident that we would not convert by January, 1978. However, as a result of discussions with HUDAC and other builder organizations, it became apparent that this would not create any major problems. The only requirement from the forest industry was that we be able to provide them with metric sized panels by January, 1978, i.e. 1200 (47 1/4) x 2400 (94 1/2) mm panels. Panel thicknesses, lumber sizes and lengths are not critical for the next few years as the construction industry can build metric houses using existing products.

The lumber industry will take longer to convert because we face some major problems:

(a) There is no apparent incentive or advantage to the lumber industry. Depending on the final sizes and lengths to be adopted, we might face major costs for conversion and these will not be recovered through improved efficiencies. Also, the B.C. industry is already exporting 80 percent of its production so it cannot be stated that use of the imperial system has impeded our ability to export our products. Nor can it be hoped that adoption of the metric system will in any significant manner improve our ability to service export markets. In fact, if we were to convert to the metric system before the United States, this could have a very significant and detrimental effect on our exports.

(b) The second major factor affecting the timing for conversion of the softwood lumber industry is the number of codes and standards that must be rewritten or revised. We optimistically predict that this will take two years to complete. I believe there are more than 100 standards in Canada alone that must be rewritten. We must also consider codes and standards in export markets, such as the United States, Japan and the United Kingdom, where we worked hard for 15 years to get acceptance and recognition of our existing sizes.

(c) The third, and possibly major factor, affecting timing is that we must coordinate Canadian conversion with that of the United States. The United States consumes 65 percent of the B.C. lumber production so our plans must be compatible with theirs.

Looking at the United States for a moment, they have recently passed legislation providing for U.S. adoption of the metric system. This bill:

(i) states conversion will be voluntary.

(ii) established metric units as the predominate but not the only basis of measurement.

(iii) established a metric conversion board to coordinate plans but does not set deadlines for conversion.

The lack of legislation in the United States has not deterred the U.S. industry from considering the metric system. The U.S. pharmaceutical industry, like their counterparts in Canada, have been on the metric system for 15 years. The U.S. space program has made extensive use of metric for many years. Many major companies in the United States had already announced plans to go metric, even before the legislation was enacted. Several states have announced plans to introduce metric units into their school systems sometime this year.

The U.S. lumber industry is no exception. They have been actively preparing in the event the United States does adopt the metric system of measurement. They have developed a position which calls for absolute soft conversion. The general feeling within the U.S. lumber industry is that they could be ready to convert by 1980 but it will more likely be 1985. I think it is important that we note that the U.S. lumber industry

has also concluded that they must adopt a common approach with Canada on sizes, practices and timing.

So taking all factors into consideration, the Canadian lumber industry will not be able to convert before January, 1980 and it may be closer to 1985 depending upon U. S. plans.

I would now like to review briefly the recommended Canadian position and indicate how some of these recommendations were arrived at. The Canadian position differs slightly from that of the United States. For that reason a joint Canada/U. S. Committee has been appointed to resolve these differences. The sizes and recommendations must be considered tentative, pending discussion with the United States' industry and ratification by the Canadian industry.

In developing the Canadian position we quickly realized that the key was dimension lumber as this represents such a significant percentage of the total softwood lumber production. That is where we started.

We started out on a very idealistic basis. We were going to maximize recovery from our saw logs. We were also going to improve the structural performance of lumber by making it thinner and wider, and therefore, carrying greater loads or spanning greater spans with the same amount of wood fibre. In general, we saw metric conversion as a real opportunity to cure many of the ills of the industry.

Our investigations were very extensive. They included a computer program to study how recovery would be affected by adopting different metric size series (both cubic and lineal). We developed thousands of span tables for each of the different series of sizes that were under consideration. And of course, we had a great deal of consultation and input from home builders, the U. S. industry and many other major users.

Slowly, but surely, we came full circle back to sizes that very closely approximate our existing lumber sizes. In fact, we rediscovered many of the reasons for doing what we are already doing today in our sawmills.

Where as we are recommending some rationalization of sizes, the actual changes are quite small. I do not intend to discuss the proposed sizes for all the various lumber products. However, I feel a few comments on dimension lumber sizes would be warranted.

Thickness

We are recommending a finished dry thickness of 38 mm. This is the same as our existing 1 1/2". We considered thinner thicknesses, including 35 mm but quickly realized that fire regulations, particularly in the United States would prevent any further reductions in the thickness of dimension lumber. We also looked at increasing the thickness to, say, 40 mm or even 50 mm but such a move was deemed uneconomical. Our current stud sizes are already 25 percent stronger than is required to do the job and increasing the thickness of studs would only have unnecessarily put more wood fibre into the wall cavity.

Widths

We are recommending a width series of 65, 90, 140, 190, 240 and 290 mm. This is very close to our existing dimension sizes. Up to the nominal 8", we are within 1 mm of the existing sizes. In 8" and wider, we are recommending that the width be increased by approximately 1/5 of an inch or 5 mm.

In considering widths, we looked at sizes in all principal export markets, such as the United Kingdom where they have a series of widths based on 100, 150, 200, and 250 mm series. On the surface this appears to be very logical and rational series of sizes to consider under metric. However, it does have a major problem that the wider widths cannot be ripped into narrower widths as there is no allowance for kerf.

We also consider soft conversion as the U. S. is recommending but felt some rationalization would be required in order to avoid some pretty "odd" sizes. Also, there is a strong feeling within the Canadian group that there is a need to improve the performance of our 8" and 10" floor joists. We felt it quite critical to increase the widths slightly to minimize bouncy floors and, in order to attain several critical spans with our 8" and 10" joists.

Lengths

We gave serious consideration to a series of lengths based on even metres with 250 mm or 500 mm increments. However, we finally opted for a series of lengths based on 2.4 metres with a 300 mm increment. The reason for this is that it better relates to the recommended building modules; it reduces production problems and conversion costs and it ties in with the general thinking in the United States.

With other lumber products, we attempted to be consistent with the approach taken on dimension lumber and relate the sizes of other products to dimension sizes where appropriate.

Discussions with the U. S. industry has identified some differences of opinion, none of which I view as insurmountable. I believe mutual agreements between our two forest services plus an agreement on nomenclature and units of sale that is cubic metre (m^3) or lineal or piece will help us substantially in resolving our differences.

I would like to conclude by providing a brief synopsis of some of the ways in which our industry may be affected by metric conversion:

(a) We will not convert before 1980.

(b) Size changes will be small, in fact, there may be no change at all.

(c) We will have to become accustomed to working with millimetres and metres instead of inches and feet.

(d) There may be a period in Canada when we will be selling in metric units in the domestic market and in imperial units in the U. S. market. This depends on when the United States converts. In this regard, I am only talking about metric

units, or the language we will be using in commercial transactions. I am not suggesting that there will be a period when we will have one series of sizes of Canada and another series of sizes for the U. S.

(e) Our products will be sold on the basis of cubic metres or lineal metres instead of FBM.

(f) We will likely be selling on the basis of actual sizes rather than nominal sizes. This will avoid confusion in the market place but will also mean new conversion factors at the mills and elimination of overruns. In the mills, we will face some equipment modification as well as some replacement. The thickness and width changes in most cases can be accommodated by adjustment to the existing equipment. The exception might be a chip and saw operation where a new profile head will likely be required. Lumber lengths will pose the major problem to mills. Most automatic trimmers do not have sufficient adjustment to accommodate the new lengths and, therefore, will have to be replaced. This is an important consideration for any mill that is currently contemplating making changes to their existing trimmer equipment.

Generally speaking, conversion of the softwood lumber industry should be a relatively easy transition. It will require a certain amount of effort and some cost but the changes will be small and I anticipate, when we are fully converted to the metric system, operation of a sawmill will be considerably simplified. At least we should not encounter the problems of some other industries who will be faced with producing and carrying duel inventories for as long as replacement products are required.

The current Canadian position lends itself to a standardization of all logs, lumber and by-products to a constant, namely m^3. Therefore, lumber when sold on m^3 based on net size represents a percentage of the total log input. Chips sold by m^3 of SWE is also a percentage of total log input. Likewise, sawdust, hog fuel and shavings. When these are all added together they should represent total log input, except in the mills which dry lumber, there will be a loss factor due to shrinkage.

Example, in an all hemlock mill where 50 to 60 percent of lumber is dried, the shrinkage factor will probably be 3 to 4 percent.

Later on today's program you will hear from speakers about changes in grading concepts, i.e. limit states design, in-plant testing, these may also influence both the Canadian and U. S. position on lumber sizes in the next few years, so I think we can afford to become too rigid in our position. I would entertain any questions in the next few minutes and sincerely hope I have helped remove some of the concern that becomes associated with the thought of going metric.

Q. Are other countries of the world involved in setting some of these standards for countries that are already on metric?

A. Our examination of the other countries who are likely to import from us is that no rationalization of sizes can be interpreted. In many cases and particularly if you had to deal with the U. K., you will find some rather odd-ball sizes that do not in any way relate to our proposed sizes.

The other area I am personally familiar with is the Orient, and again there doesn't seem to be the same type of rationalization. Don't forget though, that Europe, U. K. and Japan have adopted a platform frame style of building. It's not developing too fast but we hope the change over to metric sizes will be relatively easy for them as we think it would be for us.

Q. Is there a provision for continuing the present sizes in the case of repairs and extensions to existing buildings?

A. No, there hasn't been any provisions. I believe I am right in saying that the changes are so minimal that it will practically go unnoticed. If you had to replace a floor joist on an outside porch with a piece of what we'll call a 2 x 8 for the moment and it rests on the two plates, just knock off 5 millimetres at the resting point and you are at the same elevation. The change to metric is much less significant than the change from the old lumber standards to the new lumber standards in 1970.

Q. Would you run that by me again about the 2 percent shrinkage. We have a mill that cuts about a 100 million feet a year of hemlock and dries it and 2 percent would be a significant number of dollars.

A. You've got the same thing right now, but you just don't know it. Let's say that you are now cutting 1 3/4 x 4 inches and you have one size. You are kiln drying the lumber and dressing it 1 1/2 x 3 1/2. You have taken a volume of wood, shrank 2 percent or in the case of hemlock it is closer to 5 percent and planed it so the combination of the shrinkage and the shavings represent what you started with, your 1 3/4 x 4. It won't make any change in the true yield you are getting out of a cubic foot of logs.

I would like to make a little comment. Any of you who are going to get involved with metrics, it is well worth your while to locate a converter for the next year or two. Ultimately, we will think and use only metrics and forget about feet and inches.