UKMA news

The newsletter of the UK Metric Association
For a **single** *rational* system of measurement

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In this issue:

Election of Officers 2013 - 2014

At the 2012 AGM Robin Paice announced his retirement from the UKMA Committee, after 10 years as Chairman.

As stated at the last Annual General Meeting of the UKMA, held on 6 July 2013, no valid nomination for Chairman had been received.

The Committee consequently co-opted John Frewen-Lord and appointed him as Acting Chairman until an election can be arranged. This will be early in September, when it is likely that fewer members will be away on holiday.

Many thanks to Robin for his un-tiring efforts promoting the cause of metrication in the UK. He will remain a member of the Committee where he has promised 'no diminution' in his commitment to the cause!

UKMA Prepares to Welcome a New Chairman

Since Robin has decided to step down from the role of Chairman, John Frewen-Lord has agreed to take on the role, and build upon the solid foundations that Robin has left.

John lived for over 30 years in Canada before returning to the UK at the start of the new millennium, and has been a committed convert to use of the metric system ever since he was a member of the Construction Sector Conversion Committee during Canada's metrication in the late 1970s. As a surveyor, measuring things was very much a fundamental part of his life, and the switch to using metric measures made that life immensely easier.

But John also spent the major proportion of his career as a self-employed businessman, both in Canada and in the UK, where not only was it necessary to provide a technically correct service to clients, but those clients had to see value in the products and service they received – value that they could use to further their own business dealings. This outlook has meant that John has viewed metrication not simply as a technical goal, but very much as something that is essential to the economic prosperity of the UK. Simply put, the UK has to be able to compete on equal terms with every other country in the world, almost all of which are metric, and for that the UK needs both professionals and shop floor workers alike properly educated in the metric system, and able to apply that education in contributing to economic growth in Britain.

John says: "The UK is far more metric than we realise. I believe that, with some political will, the final steps can be taken without too much real opposition or howls of protest, although there will be some of course. That's only natural. But once people see that completing metrication is essential if the UK is to maintain its living standards, that it is in fact in everyone's own individual best interests, then far more people will rally round than we may currently believe. The one last remaining obstacle of course is converting the country's road signs. We may think it doesn't matter, this last main exception to full metrication. But it does matter. David Cameron said: 'Britain is open for business.' Yet any visiting business person from almost the entire (metric) world, on landing here and seeing our imperial road signs, may beg to differ, and take their business elsewhere. That has to change."

The UKMA wishes John well, and looks forward to the next ten years. Who knows – by then metrication will be so far complete that the very raison d'être of the UKMA will cease to exist - a case of 'Mission Accomplished'.

Traffic Signs Manual Chapter 4

From Tony Wilson:

The Department for Transport (DfT) published revisions to the Traffic Signs Manual on the 30th July 2013 with the statement:

> "Chapter 4 of the Manual is concerned with signs that warn road users of hazards ahead and was last updated in 2008. The main changes relate to the signing of low bridges and on using the new triangular warning sign that indicates maximum height in both imperial and metric units. Bridge strikes, where vehicles, their loads or equipment collide with bridges, are a significant and recurring problem and the revised guidance gives highway authorities up to date information and demonstrates the Department's ongoing commitment to tackling the risk."

Tony Wilson comments:

I think there is actually good news in this new document; while the amendment last year permitted the new sign, this guidance sets out how highway authorities are expected to use the signs. And this version of the TSM Chapter 4 has several improvements. While subtle, they add weight to the argument that highway authorities should be using dual units on dimension signs. This is about as far as the DfT can go within the current regulations but it sends a clear message to authorities that the DfT expect them to show metres at low bridges.

Here is a short comparison of the relevant sections comparing the previous version (2004 not 2008 as stated by the DfT!) and the new one. Key points:

Low bridges

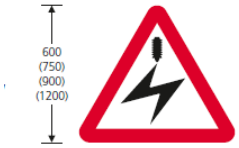
629.2A Mandatory height restriction (metric and imperial units)

Metric units "recommended for all bridges on main routes and on roads used frequently by foreign drivers" changes to "It is strongly recommended that both units are displayed on signs, especially on main routes and roads used frequently by foreign vehicles"

Thus when now writing to local authorities, we no longer need to argue that the road is a main road or frequently used by foreign vehicles for both units to be recommended by the DfT; it is recommended at all sites, and omission of metres at any site puts the authority on the wrong side of the official guidance (although not the law).

Power cables

"The height indication in metric units may be omitted, but it is recommended that both be displayed" changes to "While the Regulations permit the omission of the height indication in metric units, this is inadvisable"



779 Electrified overhead cable

May be used only in combination with diagram 780A, 780.1A or 780.2A

780A Safe height beneath cable

Thus while imperial-only signs at power cables are still permitted, failing to show metres as well would set the authority in contradiction of DfT advice. No local authority would want to be in this situation in the event of an accident.

The advice is included in the Traffic Signs Manual section dealing with railway level crossings.

John Frewen-Lord commented "I find it bizarre that it is possible (even if inadvisable) to permit imperial-only heights in such locations. I have seen on a number of occasions French-registered outsized loads on British roads, and surely contacting 25 kV would be even more 'inadvisable'."

BBC can get it right... but only sometimes

After some communication with the BBC about the use of upper case characters for metric symbols on the ticker below the picture on the News Channel your editor received this reply:

> "Thanks for contacting us about the ticker tape on the BBC News Channel from 14 June.
>
> We understand you believe it was incorrect to display 200 metres as "200M" in relation to the news about Usain Bolt's win at the Diamond League. You suggest it should have been displayed as "200 m" with a space between the number and symbol.
>
> All headlines shown on the ticker tape are in upper case which is why the 'm' was shown this way.
>
> Please also see the Diamond League website where information about this race is displayed:
>
> http://www.diamondleague.com/Diamond-Race/Overview-Disciplines/200m-Men-Discipline/
>
> As you can see from their website the discipline is 200m Men thus it's shown that way in our reports."

Just because an instance of a measure is incorrectly formatted doesn't mean that it should be copied by an organisation that should know better!

When will the BBC refer to the standard definition at http://www.bipm.org/en/si/si_brochure/chapter5?

This specifically says:

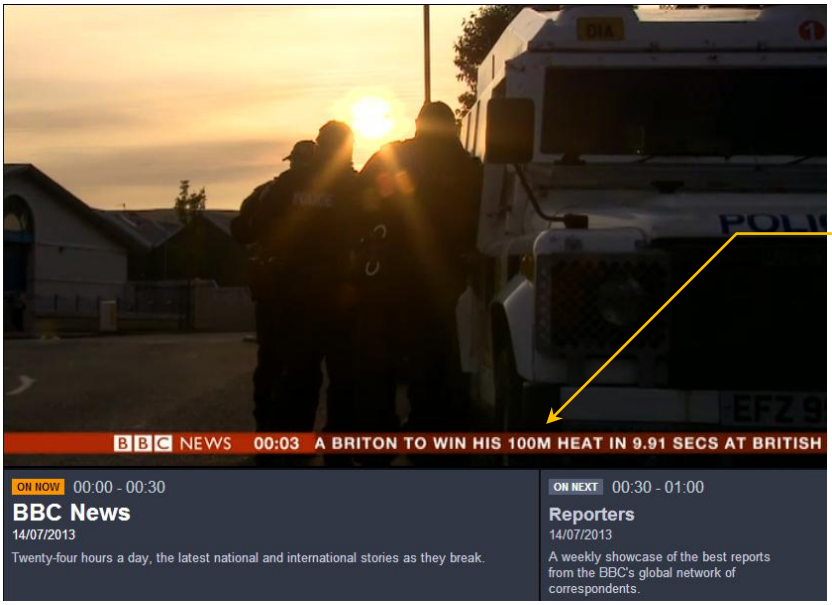
> "5.3.3 Formatting the value of a quantity
>
> The numerical value always precedes the unit, and a space is always used to separate the unit from the number. Thus the value of the quantity is the product of the number and the unit, the space being regarded as a multiplication sign (just as a space between units implies multiplication). The only exceptions to this rule are for the unit symbols for degree, minute, and second for plane angle, °, ', and ", respectively, for which no space is left between the numerical value and the unit symbol."

The screen shot below shows that the ticker can carry lower case characters. Maybe this was a mistake by the operator but it implies that it is a policy not a technical reason that overrules the use of the SI standard.

This is correct – and with a space but this is feed from a non-BBC source.

At least this is a lower case 'km' but no space!

This example is a retrograde step:



There is no technical reason why this should not read '100 m'.

After following up this reply that I did not consider satisfactory, the BBC further replied "we do not feel that viewers would misunderstand the headline 'USAIN BOLT WINS 200M' in any way."

So just because the headline would not be misunderstood, the BBC regards ignoring the appropriate standards as legitimate!

And why doesn't the BBC report babies' weights in kg?

More from the BBC:

This report from the BBC website on the 23rd July 2013 entitled "Royal baby: An average baby?"

The royal baby, weighing in at 8lb 6oz, is larger than the average, although the average birth weight of UK babies is increasing - 7lb 8oz for boys (up 2oz since Middle of the Road were driving us mad with their cheeping in 1971) and 7lb 4oz for girls (up 1½oz).

We still tend to measure babies in imperial units for some reason*, but for those who prefer grams, the averages are now 3.4 kg (boys) and 3.3 kg (girls). The new royal child weighs about 3.8kg.

Babies tend to be bigger or smaller depending on the region they are born. So in the South West of England, for instance, 44% of babies weigh more than 3.5 kg (7lb 11oz) while in London it is 37%.

*Why not elaborate on this BBC?

Magna Carta

St Albans Cathedral welcomed an original Magna Carta to celebrate its significant role in the story and where it all began 800 years ago.

On Thursday, August 1, the most famous document in English history came to the Cathedral.

On loan from Lincoln Cathedral, the original 1213 Magna Carta is scheduled to be on display to members of the public between the 3rd August and 29th August 2013 as part of a special exhibition in the Cathedral.

Your editor and secretary attended a meeting to hear about the plans for the celebrations of the 800th anniversary of the sealing of Magna Carta on the 2nd of August in St Albans Town Hall.

We heard that in August 1213, St Albans Cathedral was the venue for the very first meeting between barons and clergy to discuss their grievances against King John. This historic meeting ultimately led to the articles that became Magna Carta, sealed in Runnymede two years later.

The clause of most interest to UKMA members is number 25 which states:

"There shall be but one Measure throughout the Realm"

"One measure of Wine shall be through our Realm, and one measure of Ale, and one measure of Corn, that is to say, the Quarter of London; and one breadth of dyed Cloth, Russets, and Haberjects, that is to say, two Yards within the lists and it shall be of Weights as it is of Measures.

However, our current measurement mess is enshrined in the Weights and Measures Act 1985:

> "Units of measurement.
>
> [Subject to subsection (6) below,] the yard or the metre shall be the unit of measurement of length and the pound or the kilogram shall be the unit of measurement of mass by reference to which any measurement involving a measurement of length or mass shall be made in the United Kingdom; and—
>
> the yard shall be 0.9144 metre exactly;
>
> the pound shall be 0·453 592 37 kilogram exactly.
>
> Schedule 1 to this Act shall have effect for defining for the purposes of measurements falling to be made in the United Kingdom the units of measurement set out in that Schedule; and for the purposes of any measurement of weight falling to be so made, the weight of anything may be expressed, by reference to the units of measurement set out in Part V of that Schedule, in the same terms as its mass.
>
> Subject to subsection (4) below, the Secretary of State may by order amend Schedule 1 to this Act by adding to or removing from Parts I to VI of that Schedule any unit of measurement of length, of area, of volume, of capacity, or of mass or weight, as the case may be.
>
> Without prejudice to section 8(6)(b) below an order under subsection (3) above shall not remove the pint from Part IV of Schedule 1.
>
> An order under subsection (3) above may contain such transitional or other supplemental or incidental provisions as appear to the Secretary of State expedient.
>
> Subsection (1) above shall not have effect so as to authorise the use in the specified circumstances of—
>
> the yard as a measurement of length, or
>
> the pound as a measurement of mass, otherwise than in accordance with Regulation 7 of the Units of Measurement Regulations 1986 (supplementary indications) F4. . ..

> In subsection (6) above "the specified circumstances "has the same meaning as in the Units of Measurement Regulations 1986, that is to say the circumstances specified in Article 2(a) of Council Directive No. 80/181/EEC as limited by the provisions of Article 2(b) of that Directive.]"

Article 2(a) of Council Directive No. 80/181/EEC states:

> "(a) The obligations arising under Article 1 relate to measuring instruments used, measurements made and indications of quantity expressed in units of measurement, for economic, public health, public safety or administrative purposes."

Can anyone understand this mumbo-jumbo? Does it enable honest trading? Would it satisfy the writers of Magna Carta?

Or is this all to satisfy some street traders and tabloid newspapers?

Food labelling – rounded metric quantities

More and more products are being packed and labelled in rounded metric quantities.

These examples from Tesco illustrate the progress that has been made:

But this one, sent in by Tony Wilson shows that there is still some way to go.

330 mL should be 11.614 uk fl oz not 11.15.

These are US fluid ounces!

Are SI symbols really international?

Pictures taken on a flight from New Zealand to Hong Kong on a Cathay Pacific Boeing 777:

First the English version

Excellent example of correct SI implementation, including space between number and unit symbol

Then the Chinese version:

What's this? Looks like a Chinese 'translation'

The plane has slowed down between pictures on its approach to Hong Kong!

SI symbols are supposed to be international. Many people think that they are abbreviations but the relevant BIPM brochure specifically states "It is not permissible to use abbreviations for unit symbols or unit names, such as sec (for either s or second), sq. mm (for either mm^2 or square millimetre), cc (for either cm^3 or cubic centimetre), or mps (for either m/s or metre per second)."

It's lucky for us English-speaking and other Latin alphabet-using peoples, that the SI symbols are (relatively?) easy to understand. Pity the Arabic, Chinese or other peoples using other characters to write their languages.

Is the situation shown in the illustrations of the aircraft location and speed typical of usage by non-Latin languages?

Does anyone have any other examples?

Joules – rare but minor progress for metrication

From Robin Paice

After many recent setbacks, it is pleasing to report a small but significant bit of progress in the long campaign to make the metric system (SI) the default system of measurement in the UK. This minor (but perhaps somewhat pyrrhic) victory concerns front-of-pack (FOP) labelling.

Examples are beginning to appear in the shops of FOP labelling such as the one illustrated below. This is in accordance with EU Regulation 1169/2011 approved in 2011 and shows energy content in both kilojoules (kJ) and kilocalories (kcal).

Both package labelling and measurement units are matters of EU competence, and the European Commission consulted member states on new Regulations which would apply throughout the EU.

Unfortunately – and to their discredit – the UK government argued for FOP labelling to show "calories" only, with no joules. This was their comment in a response to their own consultation in 2012.

> *"4.21*
>
> *We recognise that the provision of energy information in two units of measurement may both restrict space available on pack and impact on consumer understanding of this information. The UK lobbied hard on this issue. However, the Units of Measurement Directive 80/181/EC (as amended) commits all European Member States to use internationally agreed units of measurement – for energy this is kilojoules. We could not secure derogation from the existing Directive during negotiations. The EU FIC therefore states that energy must be labelled in kilojoules as well as kilocalories."*

Note that, instead of explaining or defending the long term benefits of changing to a scientifically-based system, the UK document tries to blame the EU for overruling its attempt to undermine the Units of Measurement Directive.

Sadly, the UK Government were joined in their short-sighted and unscientific lobbying by the Consumers' Association (Which), who wrote:

> *"When the energy content is provided, it is important that it is given as calories (***Kcal***) [sic] on front of pack and that this information is not confused by additional kilojoule (***KJ***) [sic] information. It is important that the interpretation of the EU Food Information Regulations allows for provision of* **Kcal** *[sic] and* **KJ** *[sic] information on back of pack, but that it does not over-complicate front of pack nutrition information. Providing energy in both units would negate the point of simplified front of pack nutrition labelling."*
>
> *[It is indicative of Which's level of understanding that they cannot get the symbols right!]*

The UK Metric Association (UKMA) had argued that the proper scientific measure, the joule, should be used exclusively and that the obsolete "calorie" should be discarded. Regular readers of MetricViews will know that the joule is part of the International System of Units (SI) and that it is directly related to other units, whereas the "calorie" is an anomaly as its value is determined by experiment (basically heating distilled water) rather than by definition.

The problem of course is that the "calorie" is deeply embedded in the public mind, in the media, in the food, health and weight-watching industries and in many otherwise wholly metric countries. Defenders of the "calorie" claim that since the general public is familiar with this unit, it would be confusing to try to replace it with a different measure. They also argue that giving both units would be even more confusing.

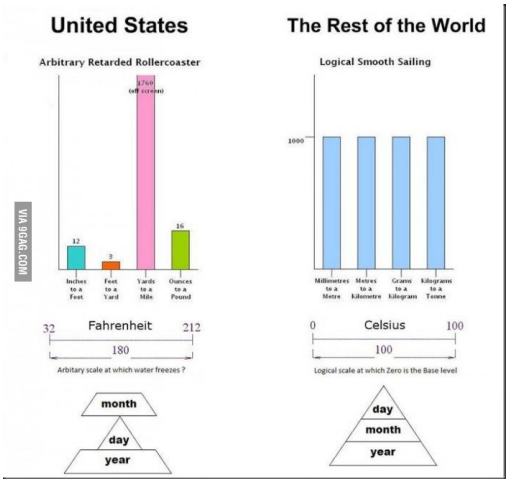
UKMA would agree that giving both units is undesirable – but for a very different reason. Experience in other fields (e.g. price marking and quantity indication in retailing) has shown that displaying dual units simply enables people to relate to the unit with which they are familiar – and ignore the unfamiliar unit. No progress is made in achieving the changeover to proper metric units. It is another example of the failed policy of "voluntary gradualism" that has bedevilled the UK's metrication efforts for nearly half a century.

It is for this reason that UKMA favours a "clean break" with the obsolete units. If people can learn to cope with the internet, smartphones and DVD recorders, then joules should be a doddle. All you need to know is that the average energy needed by an adult is 10 000 kJ (10 MJ) per day (slightly more for a man, slightly less for a woman) – and relate your energy intake in kilojoules to that figure (obviously adjusted for your own personal lifestyle).

However, while we should be pleased that the European Commission has insisted on saving the joule, our pleasure should be tempered by the fact that the "calorie" has also been preserved indefinitely. In practice this may make it even more difficult to delete it in the future.

Post from 9Gag

Sent by your Editor's daughter – a 100% metric supporter :



It isn't just the US, the UK hasn't yet discarded the 'Arbitrary Retarded Rollercoaster' completely!