The Yardstick

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Death by Decimalisation

How safe is the metric system? We ask because the government stated in February 2010 that it intended to stamp out any remaining use of imperial scales in British hospitals, citing patient safety as the reason (see the House of Lords debate, overleaf).

Although the Department of Health says that metric's decimal nature makes it straightforward to use, changing units by moving the decimal point is also potentially dangerous, since the chance of error necessarily increases. In a medical environment, misplacing the decimal point can be fatal; according to research, three of ten hospital drugs at risk of 10-fold dosing errors are 'high alert' drugs, as are all four at risk of 100-fold errors.*

Moreover, adherence to *Système International* means that only metric units based on multiples or sub-multiples of 1,000 are allowed; use of intermediate units, such as the decigram and centilitre, are not permitted. The practical consequence is that only one unit, the milligram, lies between the gram and one *millionth* of a gram, the microgram.

The risk of error increases further still due to metric's 'rational' notation that prescribes confusingly similar prefixes and abbreviations; for instance, milligram and milliliter, and milligram and microgram. This *Yardstick* demonstrates the hazards of metric and decimals.

Metric removed from U.S. Highways manual

The 2003 edition of the United States *Manual on Uniform Traffic Control Devices for Streets and Highways*, the Federal publication for defining road markings, pavement signs, bikeways, etc, used both metric and English units in its text. The 2010 edition states the following change: "Because metric units are not currently used in the U.S. for traffic control device applications … only English units are to be used in the Manual's text, figures, and tables". Metric conversions are provided for by an appendix.

John Gardner, Director

* *Potential tenfold drug overdoses on a neonatal unit*, K Chappell and C Newman, 2004

BWMA is a non-profit body that exists to promote parity in law between British and metric units. It enjoys support from across Britain's political spectrum, from all manner of businesses and the general public. BWMA is financed by member subscriptions and donations.
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House of Lords, Question asked by Lord Walton of Detchant, 25 February 2010

To ask Her Majesty's Government whether all National Health Service bodies comply with the requirement that weighing scales used in the National Health Service display metric units only.

The Parliamentary Under-Secretary of State, Department of Health (Baroness Thornton): My Lords, NHS use of weighing equipment is regulated by local authority trading standards. LACORS, the Local Authorities Co-ordinators of Regulatory Services, which runs trading standards, conducted a national medical weighing project and published a report in July 2009. We are working closely with LACORS to address the concerns raised in the report. A new comprehensive safety alert will be published in March.

Lord Walton of Detchant: My Lords, I thank the Minister for that helpful reply. Is she aware that the importance of this topic relates to the fact that the dosage of many powerful drugs is now calculated according to the weight in kilograms of the recipient? If, in error, such a calculation used imperial units, there would be a serious risk of underdosage or, more importantly, major over-dosage. Does she further understand that last year, LACORS, the Local Authorities Co-ordinators of Regulatory Services, carried out a major survey that found that 30 per cent of weighing machines in hospitals were switchable between metric and imperial units and that a staggering 10 per cent were permanently switched to imperial units only?

Baroness Thornton: The noble Lord raises a very important question indeed. The problem is that all noble Lords, if they weigh themselves, think of their weight in stones and pounds and not in kilos but all medical facilities, anaesthetics and clinical decisions are taken internationally on the basis of kilos. It is very important indeed that the weighing that is done in hospitals and all medical facilities is accurate. That is why we will issue a new alert in March - we issued one last year. We are making progress. The noble Lord is absolutely right - this is a very important issue that we must get right.

Earl Howe: My Lords -

Lord Howe of Aberavon: My Lords -

Baroness Trumpington: My Lords, may I just -

Noble Lords: Lord Howe!

Baroness Trumpington: Oh!

Lord Howe of Aberavon: My Lords - and my lady - I must begin by declaring two interests: as long ago as 1972, I started two years as the Minister for metrication in Edward Heath's Government, and for many years I have been a patron of the UK Metric Association. Is the Minister aware that on 7 December 2008 her noble colleague, the noble Lord, Lord Drayson, when he was the Minister of science, wrote to the chairman of the UK Metric Association, as follows: "The Government's longstanding policy ... is to move towards full metrication in time ... We recognise that a single system of units of measurement as a reference point is vital for fair trade and consumer protection"?

Is she further aware that since I was concerned with this topic decades ago, almost every country in the British Commonwealth - including the Republic of Ireland - has completed that process absolutely fully? Is it not time for all of us, in all parties - I come to the crucial point - now to work together to clear up this long-standing and very British mess?

Baroness Thornton: I absolutely agree with the noble and learned Lord. He is completely right. All our children have been educated using metric calculations throughout and that is quite right. This is a matter that will solve itself over time but it is our job in government to move as fast as we can towards people recognising and feeling comfortable using metric calculations.

Lord Alderdice: My Lords, the Minister has said that it is important and the noble Lord, Lord Walton, has, as ever, pointed out in detail why it is so important for safety and the saving of lives. It is a matter which has been around for some time. It is many months since it was brought forward. Rectifying it is not a matter of huge expense. The professionals are very clear about metrication. Why has it taken such a long time for the Government to respond with what is a very simple instruction to put the matter right, and not an expensive one at that?

Baroness Thornton: We have not taken a long time. We have been working with LACORS for several years to take this matter forward. However, the purchase and installation of weighing machines is done at the local level. The decision to replace and monitor weighing machines is taken by PCTs. What we must do, and what we have been doing, is make sure that they are regularly inspected and the instructions are completely clear. I am happy to provide the noble Lord with the alert that will go out in March. It is completely clear what needs to be done at the local level. The other issue is that LACORS has been focusing on NHS facilities and hospitals. It is now moving its attention to doctors' surgeries, health visitors and other places, such as private hospitals, to ensure that their machinery is also as good as it should be and in order.

Earl Howe: My Lords -

Baroness Trumpington: I am sorry. Does what the Minister just said apply to weighing machines for domestic cooking? All my cookery books give measurements in pounds and ounces and my weighing machine is not metric.

Baroness Thornton: My cookery books give a mixture of pounds and ounces and metric measurements, and my scales give both. That is probably how most people's are these days. Perhaps the noble Baroness should consider asking someone to buy her some new scales for her next birthday.

Earl Howe: My Lords, the National Patient Safety Agency has reported that one of the reasons for poor nutritional care in our hospitals is the "lack of equipment, and particularly a lack of availability in weighing scales". Today, the Government's own advisers on malnutrition have written to her colleague, Mr Hope, urging him to "discuss with your fellow ministers how the apparent lack of policy on malnutrition might be remedied". In those discussions, will the Minister ask that all NHS hospitals have the weighing equipment that they need to help identify patients at risk of malnutrition?

Baroness Thornton: The National Patient Safety Agency has indeed expressed concerns about the impact that weighing scales have in relation to inaccurate readings, or possibly the inability of staff to operate the equipment properly. Training is a very important part of this whole drive to get these things right. I will take away the point the noble Earl has made and make sure that my honourable friend takes it into consideration.

BWMA letter to Rt Hon Andrew Lansley MP, Secretary of State for Health, 1 October 2010

Dear Mr Lansley

The previous government undertook to implement suggestions by LACORS that hospitals forbid the use of switchable imperial/metric scales for measuring the weights of patients.

LACORS stated, as part of a review of hospital weighing equipment in October 2008: "One of the most potentially harmful issues is that of switchable scales; those that can display metric, imperial and other units. The risk is that medication could be administered based on a read-out that was assumed to be metric".

However, we wrote to LACORS in December 2008 to ask if it could provide any examples of stone/pound read-outs being mistaken for metric; LACORS replied:

"*LACORS is unaware of any examples of actual wrong doses or other clinical errors brought about as a result of switchable scales*".

Yet, despite this, LACORS's 2009 report *The Weight of the Matter* concluded: "All scales used for medical applications should only display metric units".

On this basis, the previous government said, "We are working closely with LACORS to address the concerns raised in the report" (Baroness Thornton, House of Lords, 25 February 2010).

Given the absence of evidence to substantiate its conclusions, we believe the government should disregard the LACORS advice. Indeed, LACORS appears to have given no thought to the alternative possibility; that denying the option to display weight in stones and pounds may itself cause error, given that these are the units used by most people in this country when weighing themselves.

We would be grateful for your comments, and intended course of action.

Reply from Department of Health, 9 November 2010

Thank you for your letter dated 1 October to the Secretary of State for Health, which has been passed to me for response.

The Department issued a Safety Alert in 2008 following the publication of the LACORS Report, and issued two subsequent updates to the Alert later in the same year. Following publication of the final LACORS Report in July 2009, the Department further reviewed the position and issued another Safety Alert in March this year.

There are no plans to withdraw the current Safety Alert (EFA/2010/001 - published 15 March 2010) or change our position on the need for healthcare providers to replace unapproved domestic type bathroom scales; dual reading scales (unless converted to read metric only); and dial type bathroom and Class IIII scales within a reasonable time.

In the intervening period since the original Safety Alert was issued, a significant number of weigh scales have been replaced. In July 2009, only around 10% of weigh scales in use still displayed imperial units. Given that the majority of equipment now displays metric units, replacing the remaining equipment is ultimately in the best interests of patient safety.

Exclusively, metric units are used for all medical purposes. Drug doses are in metric, and are often calculated per patient body mass (mg/kg) or per surface area (mg/m^2). Tracking the weight of a patient is not straightforward when using imperial units e.g. calculating 10% of 75kg is relatively straightforward, but identifying 10% of 12st 9lb is more complicated, and therefore prone to greater risk of error.

I hope this provides a satisfactory response to your query.

Paul Roberts CMIOSH MIIRSM GIFireE MIFSM, Risk Management Adviser, Department of Health, Leeds

Decimal Danger; the following excerpts are from public sources, such as newspapers and websites

"Building a safer NHS for patients: improving medication safety", Department of Health, January 2004

Errors in prescribing for children frequently arise because of poor handwriting, misinterpretation of decimal points and calculation errors. Misplaced decimal points can result in 10- or 100-fold dosing errors. Despite widespread awareness of the risk, decimal point errors involving potent drugs, notably digoxin and opiates, continue to occur. These can be fatal.

Drug Dosage Calculations, University of Nottingham School of Nursing

Although the SI unit for litre is l, ie a lower case L, this has caused so much confusion because it looks exactly like a 1, i.e. number one … The Greek symbol μ (micro) is often misread as m (milli) particularly if the handwriting is poor.

NHS Education for Scotland website

Errors [have] occurred when the wrong units have been prescribed followed by a confusion regarding the conversion of milligrams to micrograms. A dose of clonidine was prescribed as 100mg instead of 100 micrograms – the

nurse giving the dose thought there were 10 micrograms in a milligram and therefore wanted to give 1000 micrograms or 10 x 100mcg tablets.

Newborn left fighting for life after overdose of TB vaccine, *Daily Mail*, 9 March 2010

A hospital launched an investigation today after a newborn baby was given an overdose of a tuberculosis vaccine. The boy, who was born on February 5, was injected with 0.5mg of the BCG vaccine - 10 times the usual 0.05mg dose … A spokesman for Scunthorpe General Hospital said it had launched a 'full investigation'. Mr Body said the firm would also follow up reports that other such cases had occurred at the hospital. He said: 'It is important that we get answers about how and why this has happened. It is unclear how many people have been affected but we have received reports that others may also have been given the same overdose'.

A doctor's experience, Chesterfield Royal Hospital (from the internet, undated)

I vividly remember a mistake I made when I was an SHO [senior house officer] in paediatrics. A two-year-old boy was admitted on a Saturday afternoon as an emergency. He had a fever and was floppy and fretful with a petechial rash. My initial diagnosis was that he probably had meningococcal meningitis and scepticaemia. We took him into a cubicle to do a lumbar puncture and started intravenous antibiotics. The registrar told me to heparinise him. Almost as soon as I had given the heparin, I suddenly realised that I'd put in far too much. I had miscalculated the dose by one decimal point and given the child ten times the amount he should have had. I felt dreadful and didn't know what to do. I called the registrar and explained what had happened. He came immediately to help and advised that I give the child an injection of protamine sulphate to reverse the effects of the heparin. The next 12 hours were awful as we waited to see if the boy recovered both from the heparin overdose and the meningitis. We were lucky. He survived and was unharmed by my mistake. I was shocked by how easily I had made a mistake and how close I was to seriously harming my patient.

Excerpt from internet discussion thread, www.mumsnet.com, 8 July 2008

Correspondent A: DS's consultant has put him on Amitryptyline as a drug to modify his perception of pain. He is undergoing bone-lengthening, and has been waking at night in pain, and also finding it painful to keep his leg as straight as he needs to while he is in his wheelchair. She advised that this would help him sleep and possibly enable us to reduce the other pain-killing drugs he is taking - codeine sulphate, paracetamol and ibroprufen. He has the first dose last night, and did indeed sleep through, but it was no help to *our* getting any sleep as he shouted and yelled in his sleep for hours, on and off (he has no recollection of bad dreams this morning). He was very hard to wake this morning, and went back to sleep after breakfast. I have looked on the instructions and he seems to be on a v high dose. It is a solution of 25mg/5ml, and he has been prescribed 7.5ml. He weighs about 17kg and is almost seven. I am wondering about reducing the dose?

Correspondent B: I would get in touch with the consultant to check the dose then - secretary will be the first port of call and she may be able to check notes to see what dose was prescribed. I am thinking that 7.5mg and 7.5ml have been misread somewhere along the line.

Correspondent A: Further investigation suggests that the pharmacist has mistakenly written 7.5mls as the dose instead of 7.5mg - which would be 1.5ml. He says he no longer has the copy of the prescription - he has sent it to head office - but he can get it back tomorrow and we can both look at it together. But he was looking at something under the counter and said 'yes, the prescription was for 7.5mg' and I said 'but that's a very different dose from 7.5ml', and that's when he backtracked and said 'oh, I mean for 7.5ml'.

Correspondent C: When I write a prescription for medication in solution form, I write the strength to be issued (25mg/5ml) and then both the volume (in ml) and total quantity per dose (in mg) so as to avoid confusion such as this … At a practice I worked at, we had a similar incident where a child was issued an incorrect dosage by the pharmicist, with extremely serious consequences.

Correspondent A: The nurse who works alongside the consultant has called, having spoken to the consultant. The prescription was definitely for 7.5mg, and, in fact, the pharmacist called the consultant on Friday when he received the prescription to check, because it is being prescribed in a way he was not famliar with. And the consultant definitely confirmed that it was 7.5mg - NOT 7.5mls. The nurse says it is v clear on the prescription. She has advised us not to give an more medication at all unless he is actively in pain, not to give more of this for a dew days - as people advise below, to keep a close eye on his breathing, etc etc and if in any doubt, take him to A&E … [later entry] Well, *here's* a turn up for the books! I just had the pharmacist, in person, on the doorstep!!! Mortified, completely admitting it is his mistake, come to make sure DS is Ok and advising us not to give him more for 3-4 days, asking for his GP's name and address so he can give her a report, bringing the correct label for the bottle, and a small dispensing syringe for 1.5ml doses!!! … [later] We're off to A&E. Nurse just rang and said consultant has asked for DS to have an ECG to be on safe side, or she won't rest easy. Nurse is on hol, too...and co-ordinating all this from her mobile … [later] A&E very helpful and thorough, and thankfully the ECG gave them no cause for concern at all. Poor DS was quite distressed because he was in bed by the time the nurse rang and told us to go - but he's OK and quite philosophical about it now. And I'm glad that the consultant was minded to take no risks … The Dr in A&E said he could have had a seizure - and that would have happened within 6 hours of having had the excess dose. That would have been in the night before I had realised there was any problem. I only started checking all this because I was a bit skeptical about DS being so sleepy.

Correspondent D: I think it shakes you quite a bit doesn't it? dd got a 10x heparin dose whilst in ITU as a baby (badly written prescription) I really lost faith for a while and I still meticulously check her prescriptions. It could have ended very badly.

Pensioner 'unlawfully killed' by nurse's insulin overdose, *Daily Telegraph*, 27 March 2009

A diabetic pensioner was unlawfully killed when a newly-qualified nurse injected her with ten times too much insulin … the coroner said … 'She used a regular syringe to inject the insulin which she should have known from her basic training you should never do. She then miscalculated how much she should use by putting the decimal point in the wrong place'.

Four-month-old baby 'dies of overdose after mother was given wrong prescription', *Daily Mail*, 30 January 2010

A four-month-old girl died after a series of errors resulted in her receiving ten times the correct dose of medicine, an inquest heard. A doctor's receptionist made out the prescription giving the dosage at 5 mls twice a day instead of 0.5 mls. It was signed by a doctor who did not pick up on the error. It was then dispensed by a pharmacist, although his technician had queried the dosage.

Letter to the *Daily Mail*, referring to the above report

Yet another death has been caused by blind adherence to the metric system. A four-month-old baby was killed because a doctor's receptionist made out the baby's prescription as a dosage of 5ml twice a day, instead of 0.5ml, resulting in the baby taking ten times too much of the drug prescribed. Such stories of patients being killed by nurses or doctors misplacing the decimal point are becoming commonplace. My aunt died as a result of receiving heart medicine at 100 times the correct dosage, and my grandmother nearly lost her life when a chemist made the same error when making up her prescription. Metric fanatics like to mock imperial measurements as an old-fashioned system, using funny names like pounds and ounces and bushels and pecks. But the very uniqueness of such names prevents errors being made when they're in use.

Recall of Emergency Asthma Care Pack, Asthma UK, May 16, 2007

BreathSpaKids.blogspot.com: Asthma UK recently launched its Emergency Asthma Care Pack but needs to recall it because there is a potentially serious error in the guide. If you received a hardcopy of the pack, please destroy it. If you received a CD, please return it. There is an IV dosage error on page 14, table five. The dose of IV Salbutamol should read 250 micrograms (mcg) not 250 milligrams (mg) as stated. Administering the incorrect dose of Salbutamol might result in a serious, possibly fatal, consequence for some patients. Asthma UK is reviewing its procedures in order to prevent anything similar happening again.

From overseas

Baby 'could have died' due to hospital drug error, *The Local* (Sweden), 12 October 2009

A three-month old baby was mistakenly prescribed a dose of painkillers ten-times higher than the recommended level following an operation at Astrid Lindgren Children's Hospital near Stockholm. Had the infant's parents not discovered the mistake, the child could have received serious and life-threatening injuries to its liver. … Instead of being given 60 milligrammes of the drug, the infant's IV drip was outfitted with a bottle containing 60 millilitres, a level ten-times higher than normal.

The Darned Decimal, *The Bulletin*, Oregon, 6 December 2007

A baby in Oregon could have died recently because of a decimal point in the wrong place. The baby got .6 milligrams of morphine sulfate, a pain killer, rather than the .06 milligrams the doctor ordered … This kind of medical error is so common as to have a name: "the darned decimal" … the doctor ordered placement of a catheter and a dose of .06 milligrams of morphine sulfate before the procedure. The neonatal nurse practitioner was unable to place the line properly and the doctor told her to try again later. She returned later and told the nurse to give the same dose as before, referring to the morphine sulfate. Based on what she remembered about the dosage the nurse asked: "Point six?" The nurse practitioner agreed. The first nurse readied .6 milligrams. She did not look at the chart. She asked a third nurse, who verified .6 milligrams. The dosage was given. They realized their mistake. The baby went into respiratory arrest. They saved the baby.

ABC News, Aug 15, 2006, Tas coroner delivers findings into woman's death

The Tasmanian coroner has made a number of recommendations to improve safety at the Mersey Community Hospital at Latrobe, after the death of an elderly patient. Coroner Rodney Chandler found serious deficiencies in the medical charts of 89-year-old Pearl Sheridan. Mrs Sheridan died of heart failure on New Year's Eve, 2004, after being given two overdoses of heart medication. On each occasion, she was given 10 times the prescribed dose, because of an unclear decimal point on her drugs chart.

The following was posted on the UK Metric Association's web blog by Paul Trusten, Public Relations Director of the U.S. Metric Association, March 2009

My commitment to the goal of U.S. metrication began in 1974 when I was in pharmacy school ... the decimal nature of the metric units made them so much simpler to manipulate mathematically. Anyone who has ever tried to add apothecary weights denominated in ounces, drams, scruples, and grains versus just adding up figures in grams will understand … Medications can only be handled in the decimal metric system. Period. In the preparation of compounded sterile injectable products (intravenous and other injectables), use of only the decimal metric system is possible. Decimal calculations are the only safe ones.

The very same Mr Trusten, a pharmacist at the Midland Memorial Hospital in Texas, also wrote the following in an internet discussion, 22 November 2007:

Heparin is available in unit doses of 100 units/mL, 1000 units/mL, and 10,000 units/mL. In the mindset I have detected, "10" isn't always "10" in the mind of the person ordering or administering a drug, and decimal placement relative to the proper dose can be catastrophically poor. Just last night, I was presented with an order for an anti-hypertensive drug whose usual intravenous dose is 1.25 mg to 2.5 mg. But this order clearly read "12.5 mg, to be given I.V. over 5 minutes". WOW! I had never seen such a dose of this medication. Sometimes, large doses of some medications are necessary, but not this one. I immediately called the department issuing the order. The nurses thought it was right, but finally turned to the doctor; *no way, Jose*. Sure enough, it was a transcription error. The decimal point should have been one place to the left, or 1.25 mg. Another common instance of decimal distress comes with the thyroid supplement levothyroxine (Synthroid) which is usually expressed in tenths of a milligram, but should be universally expressed in micrograms for safety's sake. Every time I get an order for "0.25 mg" of this drug, I call to question it, and, more than half the time, "0.025 mg" was intended. If the orders were always written with the rule of 1000 in mind, they would be either 25 µg or 250 µg, much harder to confuse. Digoxin, a heart rate modulating drug, is also expressed this way, but is also not universally expressed in micrograms.

A warning from history; article from *The Times*, 15 January 1969

Decimal measurements in prescribing drugs have been condemned by a medically qualified coroner following the death of a baby due to a misplaced decimal point. A 2-week-old baby admitted to the Thornbury Annexe of the Sheffield Children's Hospital with a heart condition was prescribed an injection of 0.16 mg of digoxin by the registrar. The baby responded to treatment, and it was intended that he should have a further injection of half the original dose. A house physician, who was busy with the registrar dealing with another emergency at the time, wrote on the treatment card 0.8 mg instead of 0.08 mg. A nurse gave the injection written up. At an inquest on the baby on 14 January, Dr. Herbert Pilling, the coroner, said that with the increasing use of the decimal system there might be danger of a similar incident. He said, "I feel very strongly that in calculating drugs it would be much simpler to use small denominations when one can deal in full numbers." Dr. Pilling said he would communicate with the Committee on the Safety of Drugs.

* * *

Hampshire trading standards officers threaten to seize trader's imperial scales

(report by Ruth Scammell, www.portsmouth.co.uk), 14 October 2010

Perry Leon has a fruit and vegetable stall in Gosport High Street, which he runs on market days every Tuesday and Saturday. For 16 years he has advertised his products in imperial measurements using pounds and ounces. But when trading standards officers from Hampshire County Council visited his stall on Tuesday he was told to change the signs and the imperial scale he has been using and start measuring in kilograms.

Mr Leon was told that he could have his scales seized on the next visit by trading standards if he continues to sell in imperial measurements. He could even face court over the issue. Now Mr Leon wants the government to review their policy on metric measurements. He said: "It's about choice, it's not about someone telling you what you can and can't do".

The UK has been gradually changing to the metric system since 1965, and signs should be either in metric, or metric and imperial, says Hampshire County Council. But Mr Leon, from West End, Southampton, said that he will never change to the metric system. "People don't want it", he said. "We did go over before. It cost us quite a bit of money to change all the signs over. No-one took a blind bit of notice of it. If somebody wants to us to sell it to them in metric we will".

Neil Herron, of the Metric Martyrs Defence Fund, is campaigning for the government to change the law. He said: "The time has now come for the new coalition government to step in and change the law to allow traders the freedom of choice to use imperial or metric".

Leader of Hampshire County Council, councillor Ken Thornber, said the council works with businesses to help them comply with Weights and Measures laws. He added: "We do this by giving help, support and advice to ensure a fair and level playing field exists across the marketplace for both consumers and traders". As a general rule, goods sold by weight should be in metric quantities. However, customers can still ask for goods in pounds and ounces. "The law requires traders to display the metric unit price, but the equivalent imperial unit price can also be shown. 'Many traders display both prices to help their customers. While a growing number of people are happy with the metric system, some find imperial measures easier to understand and so-called 'dual pricing' means both groups can be sure they're getting a good deal".

'Your Freedom'

We thank members who wrote to Nick Clegg in response to his call for laws to scrap. Members received the following letter from the Deputy Prime Minister's Direct Communications Unit, 70 Whitehall, London SW1A 2AS:

I am writing on behalf of the Deputy Prime Minister to thank you for getting in touch with your thoughts about

which laws and regulations you would like to see repealed. A careful note has been made of your suggestions.

As you may be aware, the Government recently launched the 'Your Freedom' website, and we would very much welcome you taking the time and trouble to share your views. Please visit the Your Freedom website at: http://yourfreedom.hmg.gov.uk to take part.

If you are unfamiliar with the internet, but would like to be involved in the discussion, please call UK online free on 0800 77 1234 to find your nearest centre. UK online centres are a network of free computer centres across England that offer people help and support to access and use computers and the internet.

Thank you, once again, for taking the time to write.

Mrs S Silver

[*The letter included the following footnote*] The Government is asking the public for their ideas on restoring liberties that have been lost, repealing unnecessary laws and stripping away excessive regulation of businesses.

Warwickshire Council refuses to remove metric signs referring to "550 metres", near Kingsbury, April 2010

Martin Green, UK Independence Party, received the following letter from Warwickshire Council:

Thank you for your e-mail dated the 10th April 2010 in response to my reply regarding the above [Kingsbury Link – removal of metric measurement units]. The Traffic Signs Regulations and General Directions (TSRGD) 2002 do not expressly forbid the use of metric measurements but rather give exemptions where they may be used. However the Traffic Signs Manual – Warning Signs 2004 Chapter 4, Section 18 states the following:-

18.6 The distance shown on all three plates may be varied with (i) distances over 3 miles being expressed in miles to the nearest mile; (ii) distances of ½ mile or more but less than 3 miles being expressed to the nearest ¼ mile; and (iii) distances of less than ½ mile being expressed in yards to the nearest 10 yards. ***In no circumstances*** *may metric distances be used*. [BWMA's emphasis]

Consequently your assertion that metric measurements should not have been used for distance plates (TSRGD Diag. No. 572) is correct. However, as previously stated, the Traffic Signs Regulations and General Directions are presently under review and no changes will be made until the results of this consultation have been published.

Craig Jones, Traffic Projects Engineer
Environment and Economy, Warwickshire Council

Wiltshire Council describes metric use on highways, January 2010

Our colleague Mike Willcox received the following: "Thank you for your email regarding the use of tonnes and kilometres in the *Your Wiltshire* magazine article [January 2010 edition]. In answer to your query there is a code of practice for highways that highway authorities follow, all of the measurements in this code of practice are in linear meters, square meters, kilometres and grammes/kilogram's [sic]. The UK Pavement Management Systems (UKPMS), a system that all highway authorities work to including the Highways Agency, is also in metric units. All measuring devices and survey equipment are also in metric units. You are correct in that the signs manual for highways states miles, miles per hour and yards, this is possibly the only document that defines imperial measurements. Thank you for your comments; I hope this clarifies your query".

From the Archives*: How the people are hoodwinked*, BWMA's annual report of 1907

During the last year there has been very widely distributed in the United Kingdom a circular purporting to give a true comparison between British Weights and Measures and Metric Weights. This circular was issued by the Decimal Association, and bears its name. At the top of the circular is a note remarking, "If you will study this contrast for a short time you will surely insist on your Member of Parliament supporting the adoption of the Metric System". In that part of the circular purporting to show the British Weights and Measures appear tables containing weights and measures, legal and illegal, tables now used, and tables obsolete, and so displayed as to give the maximum amount of confusion in understanding them.

Not content, for instance, with giving the ordinary Square Measure, they designate it the "Square, Surface or Land Measure," and to each denomination they give equivalents in two or three others, for example, "Mile = 640 acres, = 2,560 roods, = 6,400 chains, = 102,400 rods, pools, or perches, or 3,097,600 square yards." Take another illustration: "The Cunningham Acre is equal to 1.291322 Statute, or the Statute Acre is equal to 0.7744 Cunningham."

But the Metric Tables are equally misrepresented, though in the opposite direction. Take the Square Measure again as a case in point, all they say is "Square Metre divided into Square Centimetres."

Anyone who has seen the circular (it is a circular printed in red and black, about 10 x 8, with the metric table occupying about three inches in the centre), and who understands the two systems, must ask himself the question, "Is this an honest but ignorant attempt to contrast the British and the metric systems, or is it a designed attempt to mislead the people?" The whole get-up is such an absolutely bare-faced untruth that it is more charitable to suppose its issue is due to ignorance than to a dishonest design to delude the public.

Vice-Admiral Sir Louis Edward Stewart Holland Le Bailly, KBE, CB

by Vivian Linacre

After the loss in recent years of Dame Gwyneth Dunwoody and Lord (Peter) Shore, BWMA must now lament the passing of yet another illustrious Patron.

Of Channel Island stock, Sir Louis was born on 18 July 1915 and died on 3 October 2010, aged 95, in Bude, Cornwall, near his beautiful home in the village of St Tudy, where the Union Jack always flew from a flagstaff on his front lawn, in defiance of complaints from the local planning department. Lady Pamela was with him -- it was their 64th wedding anniversary -- as well as generations of their family.

He had served as a junior engineer officer aboard the great battleship HMS Hood and on HMS Naiad, surviving its sinking in the Mediterranean in 1942. Promoted to Lt Commander, he was posted to HMS Duke of York in the Pacific in 1944, and the following year witnessed the Japanese surrender. After several appointments in the Admiralty and Ministry of Defence, he retired from the Navy in 1972 but then entered into the phase of his career for which he will always be remembered -- as the Ministry of Defence's Director-General of Intelligence from 1972-75, at the height of the Cold War. Working closely with Washington, he became the leading expert on Soviet intelligence.

This experience, coinciding with the UK's entry into the EEC ("Common Market"), reinforced his devotion to the Anglo-American alliance and his disdain for our new European partners. Ironically, however, the press discovered that an earlier occupant of the flat that he rented in Dolphin Square was, by a weird coincidence, the notorious traitor John Vassall, which caused some embarrassing publicity.

Latterly he served as Vice-Chairman of the Institute for the Study of Conflict and also did a boring stint as Chairman of the Civil Service Selection Board. He found time to write four books: "A Man around the Engine" (1990), "From Fisher to the Falklands" (1991), "Old Loves Return" (1994) and "We should look to our Moat" (2007) -- which Liam Fox and David Cameron should read today!

We became friends in 1997, when my son was unsuccessful in his bid as Conservative Candidate for North Cornwall in that year's General Election -- but Sir Louis' acceptance of our invitation to become a BWMA Patron was some consolation! He much enjoyed the references to HMS Hood in the Nautical Measurements section of my book "The General Rule".

He has been quietly helping the Chairman of the constituency's UKIP Branch, Bruce Robertson, who is a former Chairman of BWMA -- no doubt infuriated by the latest news that Britain's annual contribution to the EU will far exceed the cost of the two aircraft carriers under contract, which consequently we can no longer afford.

Sir Louis was a hero and a perfect gentleman. We shall always miss him.

The 'Teu'

BWMA member Mary Hopson writes (31 May 2010): I wonder how many readers of *The Yardstick* know what a "teu" is. I came across the word for the first time the other day and, in the context in which I saw it, took it to be a unit of Chinese currency or measurement. It is in fact an acronym for "twenty-foot equivalent unit"; a 20-foot container (on, say, a container-ship) corresponding to one teu and a 40-foot container corresponding to two tue. The use of this particular manifestation of customary measure appears to be worldwide.

National Trust Magazine letter to member Stuart Delvin, 19 August 2009

Thank you very much for your letter. I am sorry to hear that were disappointed by our decision to not include imperial measurements in the Magazine. For a number of years we have persisted in printing both metric and imperial measurements, but the decision was taken in the production of the summer issue - due to the immense pressure for space in the magazine, and the fact that a great deal of our contemporary publications are doing so - that we should cease to print measurements in imperial form. However, you will be pleased to hear that we have reconsidered our position on the metric matter, and have reinstated dual measurements in the autumn issue, I hope you will find this satisfactory.

Kieran Fordo, Editorial Assistant
The National Trust Magazine

Newsflash: LACORS, the Local Authorities Coordinating Office on Regulatory Services (formerly LACOTS, the Local Authorities Coordinating Body on Food and Trading Standards) has changed its name to Local Government Regulation. According to its website: "The Local Government Group brands are changing from 6 July [2010]. As part of our 'Getting Closer' initiative, the organisations that come under the Local Government Association umbrella have come together to provide a much more joined up service for local authorities across the country".

BWMA, ~~11 Greensleeves Ave, Broadstone, Dorset BH18 8BJ~~
Website: www.bwmaOnline.com
Hon President: Vivian Linacre
Director: John Gardner
Chairman: Michael Plumbe
Hon. Treasurer: Lee Consterdine
~~11 Greensleeves Avenue, Broadstone, Dorset BH18 8BJ~~
Production and Distribution: Robert Stevens