Letters

ard (BS 4737) is revised the device *will* meet the Standard.

'Approval' is also a very subjective expression and can mean different things to different people. My wife can approve Persil detergent for use in her washing machine, I can approve Castrol XL for use in my car and a buyer for a chain store can 'approve' a particular manufacturer's products for sale through its retail outlets. To say, therefore, that something has the Department of Trade & Industry 'approval' is in effect giving a product Government acceptability when to my knowledge, no formalised Government scheme for such acceptance exists. Is the DTI now going to specify that this 'approved' device be bought by all Government Departments when a security alarm is required?

I think it is very important for a body as august as the Institution of Electrical Engineers to get its terminology correct so as not to risk being accused of countenancing a false trade description. If the manufacturer of the alarm system in question means that the product has been 'licensed' or 'received permission' to operate on a particular radio frequency, then shouldn't the IEE say so. The news item in question implied that the Department of Trade & Industry had approved a product when there was no standard in existence against which it could be so approved.

If, of course, I am wrong and the DTI does operate formal approval schemes then I would appreciate details particularly if the costs of their 'approval' is less than that involved with 'approval' offered by BSI, BEAB, Electricity Council and others. — Yours faithfully,

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1st July 1986

[The news item referred to was based on material provided by the company concerned. — Editor]

Earthquakes, ether and electromagnetic waves

Dear Sir — While congratulating H. Aspden on his letter on the lightning leader (January 1983 *E&P*, p.95) I fear he may be going up a blind alley as far as the speed of electromagnetic waves is concerned (May 1986 *E&P*, p.344). That the speed of light *(in vacuo)* is constant for any observer is based on the simple concept that electricity and magnetism, indeed all physical interactions, do not depend on the speed of the observer relative to anything else in the universe.

If EM wavespeed depends on the movement of an 'ether' relative to the observer, then we could change physical laws just by moving around. Perpetual motion is then just round the corner, and all the Michelson-Morley type of experiments from 1896 until today are impostures.

If EM wavespeed depended on the movement of the light source relative to the observer, then we could change the physical laws just by looking at a different source. Any change of the speed of EM waves must be due to detectable changes in the interaction (the laws) of electricity and magnetism.

No. To knock Einstein off his pedestal, Maxwell will also have to go and we will soon be back in the dark ages of confusion. A possible reason for the observed effects of FM radio quality relative to AM during earthquakes will have to rely on something else than bending ether.

More observations are necessary to differentiate between normal fading and that fading postulated as due to earthquake conditions. 'Ether' effects can, however, be safely ignored. — Yours faithfully,

R. CUSACK (M)
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31st May 1986

A new species takes root

Dear Sir — I heartily endorse the sentiments expressed by Prof. F.T. Barwell (July 1986 *E&P*, p.508) on the subject of linear motor propulsion for transport systems. At the time of the closure of the tracked hovercraft project in 1973, both Prof. Barwell and I argued that we should continue to develop the technology in the UK, if only to sell it overseas. In the event, no more backing was forthcoming and workers in other countries each went their own ways with varying degrees of success.

If the expertise which we had built up in the 1960s had been utilised, many more transport systems would now be using linear motors successfully; indeed, the inventions made in connection with the tracked hovercraft project, for example the electromagnetic joint, are still in advance of anything that has yet been exploited anywhere in the world.

It is indeed a pity that Prof. Barwell had to wait 24 years and had to travel over 4000 miles to see the fruits of our Manchester work. It will be a still greater pity if a lot of other most useful material goes to waste simply for lack of communication, because overseas developers are not even yet aware of what is possible through the exploitation of new topological arrangements employing the principles of electromagnetic induction. — Yours faithfully,

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4th July 1986

Faraday lecture

Dear Sir — That the Council is considering the future of the Faraday Lecture is good news. The last I heard was 'Your generation', when it was presented in Bristol by the CEGB. It seemed to me to be rather flashy, rather short on information and exposition, rather long on tendentious presentation of policy, and excessively noisy. In short, it showed a good deal that Faraday himself would have deplored.

Because the presentation of the lecture has become very expensive it can be undertaken only by a wealthy corporation, and has therefore deteriorated into a public relations exercise. That it has become expensive is due to the tendency for each year's Institution hierarchy to wish to outdo the previous year's; a tendency up to a point laudable but, as I recollect telling the South Midland Centre in 1956, one not without its dangers.

I suppose that not many members of Council can remember what I think was the best Faraday Lecture I have ever heard. It was produced over 50 years ago and I think unaided, by William Cramp and his assistant Franklin. It was in a tradition to which, with due regard to changing times, we might well return. — Yours faithfully,

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7th July 1986