



The manufacturers' organisation

**EEF Response to the HSC Consultative Document – CD 191 ‘Proposals for New Control of Vibration at Work Regulations Implementing the Physical Agents (Vibration) Directive (2002/44/EC) Whole-Body Vibration**

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March 2004

**Consultation  
Response**

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## ABOUT US

EEF, the manufacturers' organisation, has a membership of 6,000 manufacturing, engineering and technology-based businesses and represents the interests of manufacturing at all levels of government. Comprising 11 regional Associations, the Engineering Construction Industries Association (ECIA) and UK Steel, EEF is one of the UK's leading providers of business services in health, safety and environment, employment relations and employment law, manufacturing performance, education, training and skills.

## EXECUTIVE SUMMARY

1. This Directive lacks a sound epidemiological rationale and a realistic cost benefit of the whole-body component of the directive was not completed by the European Commission.
2. Appropriate emphasis is not placed on the '*uncertainty*' associated with whole-body vibration (WBV) measurement and this particularly in the context of a limit value which is set at 2 decimal places.
3. If the HSC were being open in the proposed guidance they would give some examples of everyday non-mechanical vibration exposures (e.g. running  $8 \text{ m/s}^2$ ) to help people appreciate the extremely low levels at which the limit value has been set.
4. We would like to learn of what actions HSC/E and the UK ~Permanent Representation to the European Union are taking to have this Directive repealed as a bureaucratic and misguided piece of legislation.
5. We support the proposed '*holistic*' approach which the HSC propose the HSE take in dealing with WBV as a component of the broader manual-handling/musculo-skeletal disorder agenda. However, we believe that the motivation for this has more to do with burying the issue rather than addressing it proportionally. If HSC/E is serious about this approach we expect to see are re-write of all the key documents in this area. It would be unreasonable to claim an holistic approach to this agenda and yet not support that with integrated guidance.
6. We urge HSC to direct HSE to carry out following implementation, detailed research to identify what if any health improvements, have derived from the introduction of these requirements.
7. We recommend that the style of the language and the sentence structure is closely examined in the current draft sentences tend to be far too long.
8. Consultation should not be biased in the way we see this one is. Question 8 asks respondents whether in their view generic risk-assessments would be useful if industry was prepared to contribute to the cost. There are 2 questions here and the questionnaire should have dealt with it in this way.

## CONSULTATION QUESTIONNAIRE RESPONSE

Below is our response to the HSC/E consultation questionnaire followed by specific comments on the various documents.

<p><b>Instructions for completion</b>          You can move between questions by pressing the 'Tab'/'Shift-Tab' or 'Page Up' / 'Page Down' keys or by clicking on the grey boxes with a mouse. Please type your replies within the grey boxes or click on the grey boxes labelled 'Please select' to reveal a drop down list to select an answer. A checked box means this response is selected – Yes: means 'yes'. <input checked="" type="checkbox"/></p>		
<p><b>Please provide some background information about yourself and your organisation.</b></p>		
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<p><b>If you work in a business please indicate what type.</b> other</p>		
<p><b>If you have answered 'other' to type of business, please enter a category that best defines the type of business in which you work.</b> Business representative and service organisation.</p>		
<p><b>If you do not work in a business, please tell us what sort of activity you are involved or interested in.</b></p>		
<p><b>Are you replying on your own behalf or on behalf of a firm or organisation?</b> Behalf of an Organisation</p>		
<p><b>If on behalf of a firm or organisation what is its name?</b> EEF - the manufacturers' organisation.</p>		
<p><b>Please give us any other information about yourself that you think is important</b>          EEF, the manufacturers' organisation, has a membership of 6,000 manufacturing, engineering and technology-based businesses and represents the interests of manufacturing at all levels of government. Comprising 12 regional Associations, the Engineering Construction Industries Association (ECIA) and UK Steel, EEF is one of the UK's leading providers of business services in health, safety and environment, employment relations and employment law, manufacturing performance, education, training and skills.</p>		

<b>WHOLE-BODY VIBRATION</b> A proforma for replying to the questions raised in paragraphs 21-48 of the CD	<b>Para(s)</b>
<b>Issue 1: HSE's draft guidance</b>	23 - 25
<b>1 Do you agree with the proposal to issue the guidance on HAV and WBV as separate documents?</b> Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
<b>Comment:</b> HAV is a real occupational health issue which requires management, WBV is not. We support the HSC/E strategy of dealing with WBV through an holistic approach as part of the musculo-skeletal agenda. However, this will mean producing integrated guidance for the whole issue rather than a separate WBV document.	
<b>2 Do you think the short guide for employers (Part 1) of the guidance should remain as part of the main guidance booklet?</b> Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
<b>Comment:</b> The main guidance is far too detailed for the non-specialist reader. Following on from the comment made above this should be integrated into the musculo-skeletal guidance. All guidance should be available as a free down-load from the HSE website.	
<b>3 Is the overall structure and content of the guidance helpful?</b> Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
<b>If "No" explain how the structure and content could be improved</b> -	
<b>Issue 2: Regulation 3. Transitional Provisions (Directive Article 9)</b>	26 – 30
<b>4 Do you agree that the transitional periods should be incorporated into the regulations and be available to all industries rather than be decided by HSE on a case-by-case basis?</b> Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>	
<b>Comment:</b> The negotiated transitional periods are essential, compliance with the WBV content of this Directive will be detrimental to EU business. HSC/E must also between now and the end of the transition period, in concert with the UK Permanent Representation to the EU, actively seek to re-negotiate these requirements.	

<p><b>5 Do you agree that the transitional period should apply to second-hand and hire equipment provided it is sold or hired out for the first time before 2007?</b></p> <p>Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/></p>				
<p><b>Comment:</b></p> <p>For the reasons stated above.</p>				
<p><b>Issue 3: Regulation 4 and Schedule 2 Exposure Limit and Action Values (Directive Article 3) – Use of A(8) or VDV for defining the values</b></p>				31 – 38
<p><b>6 Please select the option you prefer for setting the exposure limit value and exposure action value (see para. 34)</b></p>				
<b>Options</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>ELV</b>	A(8)	VDV	A(8)	VDV
<b>EAV</b>	A(8)	VDV	VDV	A(8)
Please select one:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>Issue 4: Regulation 5 Determination and assessment of risks (Directive Article 4)</b></p>				39 – 43
<p><b>7 Do you agree that, where available, suitable published WBV information could be used by employers to produce risk assessment rather than their needing to measure vibration exposure?</b></p> <p>Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/></p>				
<p><b>Comment:</b></p> <p>Risk assesment based on published data must be the preferred route of response. This necessity is not simply driven by the wish to minimise the cost of implementing a directive which has no health and safety basis it also takes account of the enormous 'uncertainties' associated with vibration measurement which bring in to sharp focus a limit value which is set at 2 decimal places!</p>				
<p><b>8 Do you feel that generic risk assessments would be useful if industry is prepared to contribute to the cost (para 39)?</b></p> <p>Yes: <input type="checkbox"/> No: <input type="checkbox"/></p>				
<p><b>Comment:</b></p> <p>This is a deliberately loaded question. HSC/E is clearly trying to ellicite support for its preferred option. The answer to the first question is a resounding yes. The second question is more difficult, by sharing the cost business will be able to mitigate the unwaranted cost of compliance. However, as there are likely to be few if any benefits to business and their employees we feel that this work should go ahead and costs be fully met by the HSE. In so doing they will be bearing a fairer proportion of this ill-concieved legislation.</p>				

<p><b>9 Do you agree that measurement may be necessary in situations described in paragraph 40?</b></p>			
Yes:	<input type="checkbox"/>	No:	<input checked="" type="checkbox"/>
<p><b>Comment:</b></p> <p>With 'uncertainties' in the 40 - 60% range it is not possible to see how any meaningful data can be derived from measurement particularly when this is being compared to an ELV set to 2 decimal places.</p>			
<p><b>10 Do you agree that the employer or one of his employees could carry out the vibration exposure assessment using relevant published WBV information?</b></p>			
Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
<p><b>Comment:</b></p> <p>Compliance must be as minimal as possible to mitigate the damage these requirements will do to the competitiveness of business.</p>			
<p><b>11 Do you agree that the employer or one of his employees could be trained to carry out WBV measurements on his machines?</b></p>			
Yes:	<input type="checkbox"/>	No:	<input checked="" type="checkbox"/>
<p><b>Comment:</b></p> <p>For the reasons stated above measurement adds no value and therefore training someone to do it adds cost and no benefit.</p>			
<p><b>12 Do you agree with HSE's guidance on the necessary competence to carry out a risk assessment and when the services of a consultant may be needed?</b></p>			
Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
<p><b>Comment:</b></p> <p>In general we support the guidance on risk assessment and when a consultant could be needed. However, we have further more detailed comments, (see below) which address specific concerns with this section.</p>			
<p><b>13 Do you agree that risk assessments should be updated on a needs basis rather than at fixed intervals e.g. every 2 or 3 years?</b></p>			
Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
<p><b>Comment:</b></p> <p>Need must be the basis.</p>			

<b>Issue 5: Regulation 6(4) Derogations (Directive Article 10)</b>	44 – 45
<p><b>14 Do you think the decision on whether the weekly averaging derogation can be used should be delegated to individual employers rather than by application to HSE?</b></p> <p>Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/></p>	
<p><b>Comment:</b></p> <p>This derogation would be a costly bureaucratic nightmare if the decision wasn't made by the individual employer.</p>	
<b>Issue 6: Regulation 7 Health surveillance (Directive Article 8)</b>	46 – 48
<p><b>15 Do you agree that formal health surveillance is not appropriate for WBV?</b></p> <p>Yes (i.e. not appropriate): <input checked="" type="checkbox"/> No (i.e. appropriate): <input type="checkbox"/></p>	
<p><b>Comment:</b></p> <p>There is no form of appropriate health surveillance for WBV which also serves to underline the absence of epidemiological evidence for a causative relationship between WBV exposure and lower-back pain. Therefore we hold the view that health surveillance is not appropriate for WBV.</p>	
<p><b>16 Do you agree with the proposal in guidance that a simpler, voluntary system of health monitoring covering risks from manual handling and posture as well as WBV exposure should be used where risks are high?</b></p> <p>Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/></p>	
<p><b>If “No” what alternative proposals do you have?:</b></p> <p>We agree that a form of voluntary health monitoring is of great benefit regardless of WBV</p>	
<p><b>General</b></p>	
<p><b>17 Are there any general comments you would like to make about the regulations or guidance?</b></p>	
<p><b>Comment:</b></p> <p>The regulations, as HSE's own RIA has indicated, will add disproportionately to costs with few and in our view, any benefits. Furthermore the damage done by the introduction of requirements could have a detrimental effect on the way in which business regards the broader health and safety agenda. HSC's recent 2010 strategy document says; 'We champion sensible health and safety controls which are sensibly applied'. These are not 'sensible' health and safety controls.</p>	

**18 In your view how well does this CD represent the different policy issues involved in this matter – *Very well, Well, Not well, Poorly?***

Not Well

**Comment:**

Unsurprisingly the CD does not reflect the view that many both in HSe and the wider health and safety community hold that this will make bad law.

**19 Is there anything you particularly liked or disliked about this consultation exercise?**

**Comment:**

The CD as referred to above, makes no reference to the lack of sound science for legislating in this area. It is clear that LBP is endemic in society this in our view is the cause of 2 things; poor design - 1) as bi-peds we are ill equipped to carry heavy loads, and 2) poor manual handling is the cause of back pain together with shock-loadings such as jumping down from vehicles. The Physical Agents (Vibration) Directive and its British implementation will in our view, not make any difference to this.

**Confidentiality:**

Please indicate below if you do not wish details of your comments to be available to the public. (NB if you do not put a cross in the box they will be made public. This takes precedence over any automatic notes on e-mails that indicate that the contents are confidential.)

Please treat my response as confidential.  (X means confidential)

Alternatively, to treat your comments on a particular section as confidential, please insert bracketed text '(Treat as confidential)' within that section response.

## DETAILED COMMENTS

### Summary Page 1-2

9. The 'Summary' or the 'Introduction' should explain clearly the significant *uncertainty* associate with vibration measurement.
10. We are unclear about what field data the HSE has to support this proposal. We urge HSE to have a robust study conducted to see what if any health and safety improvement has been derived from implementation of these requirements.

### Page 4, Paragraph 12

11. We have specific comments which concerning Annex 4, (See below). We understand that the HSE negotiations did not support legislating in this area and the assembled evidence does not prove a case for legislation, on the contrary it proves if anything a case for further research.

### Page 5, paragraph 19

12. The application of the regulations is curious; do we assume from this that (Scottish, Welsh and English) islands will be exempt?

### Page 6, paragraph 26 and 27

13. We feel the comment in the final sentence of paragraph 26 is misleading. It implies that it will always be possible to get equipment with significantly reduced vibration output. What evidence does HSE have for this? In paragraph 27 we would be interested to learn what HSE intend to do where new equipment still can't reach the imposed ELV?

### Page 7, paragraph 28

14. We support the weekly averaging derogation should be given to employers but it is necessary to keep guidance on how to do this very straightforward.

### Page 9, paragraph 37

15. We support HSE's view that employers should not need to measure WBV (37 a) but for this to become a reality the language throughout the guidance will need to be sharpened through the removal of weasel words like '*generally*'. The discussion of VDV –v- A (8) is interesting particularly the acknowledgement that following the VDV route would outlaw some *necessary work*. In our view this effect may equally apply to A8 however, this is the metric we support because it is widely understood and will be used throughout the EU.

### Page 10, paragraph 39

16. We welcome the production of generic guidance to minimise the cost of compliance and that this should be done in collaboration with business. However, we believe that HSE should shoulder the cost of this because compliance with these requirements will not in our view, lead to improvements in the occupational health of workers.

**Page 28, Annex 2**

17. It would appear that no thought has been given to the civil implications of introducing these requirements. Whilst we understand that this is not an area of HSE's responsibility their actions do have a direct impact and therefore should take account of this.
18. If HSE is genuine about its desire to see WBV dealt with through an holistic approach this should be reflected through guidance. Rather than produce stand-alone guidance the WBV component should be incorporated in an over-arching back-care guide.

**Page 28, paragraphs 3 and 4**

19. The explanation given in these paragraphs takes no account of the lack of a causative relationship between WBV and LBP. The non-specialist reader would gather from these explanations that regulations and therefore supporting guidance are a proportionate response.
20. We understand that HSE have been carrying out research with a large water utility company on how this directive will effect their operations. When can we expect to learn of the findings of this research?

**Page 29, paragraph 5**

21. The first sentence is deliberately misleading. In our view *..at least as likely*' should be re-drafted to read *..much more likely*'.

**Page 32, paragraph 2**

22. The reference to helicopters is spurious particularly so when no reference is made to road vehicles!

**Page 32, paragraph 3**

23. It is wrong to say WBV *'can also cause...'* as Appendix 4 makes clear there are associations not causal relationships.

**Page 33, paragraph 4**

24. We would like to see this information as a stated hierarchy so that duty holders can see how low-down the list WBV comes.

**Page 34, paragraph 6**

25. What evidence does HSE have for the assertion; *'..this is only likely to cause health problems...'*?
26. The remainder of the paragraph is unhelpful. It suggests that there *may* be problems for all sorts of businesses; this does not support the stated holistic approach goal.

**Page 35, paragraph 7**

27. This text is full of weasel words and caveats, (*most, fairly, generally, may, less*). How are duty holders to interpret this? For HGV's it gets worse the problems *may* exist when they are *unladen* or *heavily laden*. Presumably no problem exists if they are *moderately* laden on good roads and avoiding sharp breaking!

**Page 35, paragraph 9**

28. Drivers hours are proscribed so it is unclear what '*long hours*' means. Furthermore there is a history of back-pain in all work it is endemic in society therefore this cannot be used as a differentiating factor here.

**Page 36, paragraph 10**

29. This paragraph refers the reader to previously described factors saying that '*if any*' apply '*you should assume there is a risk*'. This will in effect mean all workers and the '*risk*' referred to is of course based on an association rather than a causative relationship.

**Page 38, paragraph 16**

30. This paragraph refers to '*a much more precise WBV assessment*' being based on measurement. Vibration measurement is anything but precise and therefore this statement is highly misleading.

**Page 42, paragraph 3**

31. This justification is misleading and has no solid evidential base.

**Page 43, paragraph 8**

32. We would also welcome HSE's views in this guidance on what duty holders are to do when lower vibration equipment is still not available after the transition period has expired.

**Page 45, paragraph 17**

33. There may be good construction planning reasons for doing or not doing this. It is somewhat naive to make such a proposal to reduce a hazard of minor importance.

**Page 45 paragraph 18**

34. There is a real danger that by focusing Principal Contractors on WBV they will be diverted from the real hazards which require managing. There is also a somewhat philosophical point of broader application and of particular relevance to smaller enterprises. If WBV is put on the list of hazards to manage unless its significance as a very minor risk is properly explained then the risk is being run of misdirecting businesses from putting in sensible controls.

**Page 46, paragraph 21**

35. The reduction of aircraft vibration may be a generally worthy aim to prolong the life of the airframe however; it is a completely disproportionate approach to compliance with the vibration directive.

**Page 46 and page 47**

36. In our view the consultees would be better placed to make a response if some comparative data had been given to illustrate the issues which arise from the different approaches. We are of the view that the A(8) method should be followed because this is already understood by employers and it is also most likely to be consistent with other member states. The claim at the end of paragraph 22 that because employers are not required to measure exposure at the EAV they will be unaffected by which method is chosen is rather naive. EAV and ELV based legislation pushes business into measurement.

**Page 52, paragraph 32**

37. We consider that the guidance concerning what to do when the EAV may be exceeded is disproportionate to the risk.

**Page 53, paragraph 36**

38. This section should contain a warning about how inaccurate measurement is.

**Page 55, paragraph 41**

39. The requirements being placed on a company completely disregard duties under the Machinery Directive. We doubt that HSE has any evidence that this is a real health and safety issue, if it is then the appropriate corrective action is through the Supply of Machinery Regulations and Section 6 of the Health and Safety at Work Act.

**Page 56, paragraph 43**

40. The word '*perhaps*' should be removed from here. We have no doubt that it is more important that machines are selected which are suitable for the work.

**Page 57, paragraph 46**

41. A reference to the risk presented by poor manual handling should be inserted here.

**Page 63, paragraph 53, and 54**

42. We fully support the comments made here concerning the inappropriate nature of formal health surveillance for WBV. It would be helpful if some guidance could be included here regarding who can carry out health monitoring.

**Page 64, paragraph 55 – 56**

43. The guidance here requires elaboration to ensure that the guidance and information provided to employees is proportionate to the risk i.e. WBV is if anything a minor factor in LBP.

**Page 64/5, paragraph 57**

44. We believe this detailed list is completely disproportionate to the need and does nothing to see WBV being managed holistically.

**Page 65, paragraph 60, 1<sup>st</sup> sentence**

45. Insert *the minimal* in between *reduce* and *risks* in the first sentence.

**Page 66, paragraph 63**

46. We believe that it is worth stating that safety representatives are not entitled to see details of health monitoring.

**Page 72, paragraph 2**

47. WBV is referred to as not being the only cause or main cause of LBP. There is no sound causative data so this statement is extremely misleading. It is clearly evidence of guidance trying to justify an unnecessary directive.

**Page 73, paragraph 5**

48. In the second sentence we suggest inserting the phrase *if any* between *'few'* and *'of'*.

49. The end of the paragraph makes a comparison between cars and agricultural vehicles. It would be helpful to illustrate this with typical exposures. We understand that some cars approach the EAV, this is certainly true if we apply the known *uncertainty* to their vibration output data. The logical conclusion which this suggests is that fleet buyers should be looking for lower vibration output cars. This would again be a completely disproportionate response.

**Page 74, paragraph 6, 3<sup>rd</sup> bullet**

50. It may well be that all vehicle manufacturers choose to place such a warning simply to protect their interests, consequently the statement becomes meaningless.

**Page 74, paragraph 8**

51. We do not believe there are any such vehicles however; again the use of the word *may* make this guidance worthless. This error is repeated in the second bullet *most unlikely*.

**Page 75, paragraph 9**

52. We firmly agree with the sentiment expressed here but unfortunately because the guidance as it currently stands is so full of equivocation it does not meet this stated objective.

**Page 75, paragraph 10**

53. The types of *risky* occupations are interesting. As a control measure will HSE be advocating slowing ski-boats, coastguard, police and pilot vessels down? These would hardly be sensible controls sensibly applied. What also of the effect on civilian helicopter crews, will restrictive flying duties be placed on air-ambulance and surveillance helicopter?

**Page 76, paragraph 12**

54. We are not aware of any commonly accepted definition of people '*particularly sensitive to WBV risks*'. Clearly those with a back injury would fall into this category but a directive was not required to deal with this. These people may also have difficulty walking, standing, sitting, lying down or walking. The final bullet appears to present a blanket ban on people who have *recently* (whatever recent is) undergone surgery or have a prosthetic device. Again a wholly disproportionate response which is not in-line with the government's strategy of keeping people in work.

**Page 77, paragraph 15**

55. The final sentence of this paragraph refers to using measurement '*to see precisely..*' this should be removed, measurement is anything but precise and HSE is responsible for giving this warning whenever guidance makes reference to it.

**Page 80, paragraph 21**

56. The comments regarding the observation of driving style are rather naive particularly with regard to self-reporting.

**Page 81, paragraph 26**

57. We suspect that HSE's *estimate* of less than 1% of the workforce exceeding the ELV is in fact more of an optimistic guess. However, if HSE will stand by this number it would seem straightforward to identify in broad terms who these workers are and focus attention on them, this could in our own estimation be 12,500 people i.e. 0.5% of the UK workforce,

**Page 82, paragraph 30**

58. We have commented above that this is not the place to be adding onerous requirements for machinery vibration risk assessments. This is a good example of regulatory creep through guidance.

**Page 83, paragraph 32**

59. Equally and to add confusion for the reader we understand that a very responsive seat can have very high measured vibration levels, (exceeding ELV) but be reported as more comfortable by the user.

**Page 90, paragraph 7**

60. We suggest that this section is cross-referenced to other directives which deal with means of transport.

**Page 102, paragraph 11**

61. We suggest that in the context of WBV, the first sentence concerning referral to the occupational physician could be omitted.

**Page 102, paragraph 14**

62. We suggest a slight amendment so that the revised text reads; *or a GP with occupational health experience.*

**Page 104, Table 1**

63. We suggest an additional question is asked concerning recreational/leisure activity which could give rise to back problems.

**Page 111 to 113, Initial Baseline questionnaire**

64. It does seem appropriate to ask about pass-times and sports injuries which may have a bearing on this. Also membership of the TA or lifeboat crew could be a 'risk' factor.

**Page 114, Example further health questions**

65. Self-reporting can be useful however, we suggest something is added to the guidance about the hazards which can be associated with this process.

**Page 117, paragraph 2**

66. In our view a person would have to carry out measurement frequently (6 times per year) in order to be considered competent.

**Page 120, paragraph 2**

67. HSE must ensure rather than *hope* that this information is provided in a timely fashion.

68. At a conference last year HSL reported survey work on WBV which was being carried out with a parcel carrying company. Will HSE be sharing this information because it is our understanding that it contains some findings which have important implications for the regulations and guidance?

**Page 121, Table 2**

69. The source references for this data should be quoted. It is surprising that the figure of 0.3 – 1.0 is quoted as previously HSE has provided us with a higher figure. It is also important to recognise that if a rigid HGV is at the top end of the spectrum quoted it is extremely close to the ELV, given the *uncertainty* associated with measurement this exposure could in reality be well over the ELV.

**Page 122, Measuring exposure to WBV**

70. It must be made abundantly clear that there are very large *uncertainties* associated with measuring vibration. A statement to this effect must prefix this section.

**Annex 4, Page 149, Paragraph 4**

71. We do not accept the assertion that – ‘*There is considerable epidemiological evidence available which indicates a link between WBV exposure at work and various disorders of the lower back.*’. This is wholly misleading.
72. This Annex should begin with a clear statement that whilst *associations* may have been demonstrated causation proves elusive. A study of military helicopter pilots is hardly compelling!

**Page 151, paragraph 11**

73. We are puzzled by the phrase; ‘*In one well-conducted study.*’ Are we to deduce from this that other studies referred to were not well-conducted.

**Page 153, paragraph 14**

74. This paragraph quite rightly says that a dose-response relationship for WBV and LBP has not been established. This begs the rather fundamental question of how the EAV and ELV were established.

**Page 156, paragraph 126**

75. We do not agree with this statement. Moreover the exposures referred to for example in military helicopter pilots are orders of magnitude greater than the ELV in the directive. Therefore these studies should not be used to support these extremely low exposure levels.