

The Director
Board for Actuarial Standards

5th Floor Aldwych House
71 - 91 Aldwych
London
WC2B 4HN

3 March 2009

Dear Madam

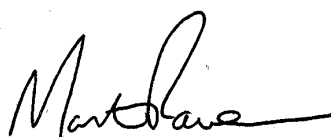
Modelling: Consultation paper

I am writing in connection with the consultation paper issued by the Board for Actuarial Standards on Modelling. We are a little late in replying and I apologise if this causes you any inconvenience but I hope you will consider our comments.

I have attached Buck Consultants' comments on the paper which are set out in the Appendix to this letter.

Yours sincerely

Yours faithfully



Martin C Rawe
Senior Consulting Actuary
01473 293026
martin.rawe@buckconsultants.com

Appendix – Response to the consultation paper “Modelling” issued by the Board for Actuarial Standards

1) Will the proposed purpose of the modelling TAS as set out in paragraph 2.9 help to ensure that users of actuarial information can place a high degree of reliance on its relevance, transparency of assumptions, completeness and comprehensibility?

We agree that the proposed purpose of the modelling TAS should be for users of actuarial information. However, with most actuarial work, judgement has to be applied as to what is relevant and any model can only be based on information known at the time that it is put to use. Apart from this proviso, we believe that what is set out in paragraph 2.9 should ensure users can place a high degree of reliance in respect of the factors noted.

2) Will the definition of a model given in paragraph 2.13 encompass the full range of models that contribute to actuarial information?

The definition is wide-ranging but possibly too all-encompassing as it would seem to include, for example, individual calculations such as transfer values. While such calculations should be subject to suitable peer review, the documentation requirements in the modelling TAS would be far too onerous for this type of calculation.

3) Do respondents have any comments on the proposals in section 3, especially those in paragraphs 3.15, 3.22 and 3.27?

3.15. We strongly believe that documentation should be drafted with its readership in mind so that there is no misunderstanding on the part of the users. This implies that the level of documentation will differ depending on whether, for example, it is for internal or external consumption.

3.22. We are pleased to note that development and use of models should be proportionate though the issue of a balance between those who pay for the information and those who use it will be irrelevant in many cases as they will be the same parties.

3.27. We agree that the reasoning behind judgements should be documented and judgements reconsidered in the circumstances noted.

4) Do respondents have any views on the definition of materiality that is proposed in paragraph 3.5?

We feel it would be difficult for the supplier of the information to judge whether a departure could influence the decisions to be taken by the recipient of the information. This comment also applies to documentation.

5) Should the modelling TAS include principles concerning the need for documentation as discussed in paragraphs 3.9 to 3.18?

Yes.

6) Do respondents have any comments on the proposals concerning relevance and parsimony that are presented in section 4, especially those in paragraphs 4.12 and 4.17?

We agree that unnecessary complexity should be avoided if at all possible. Paragraph 4.12 is a reasonable statement but materially relevant phenomena are not always known until after the model has been used.

7) Do respondents have any comments on the proposals concerning inputs and outputs that are presented in section 5, especially those in paragraphs 5.17, 5.28, 5.29, 5.35, 5.42 and 5.51?

5.17. We agree that this is necessary and appropriate.

5.28. We would note that it is not always possible to quantify the effects of using grouped rather than ungrouped data without carrying out calculations on the ungrouped data.

5.29. As in 5.28, it could be difficult to quantify the effects of the grouping without further calculations.

5.35. We agree with this principle.

5.42. We agree with this principle but the information given should be proportionate for the purpose of the model.

5.51. We agree with this principle.

8) Should the modelling TAS include:

(a) any requirements relating to the disclosure of known or suspected shortcomings in data, over and above those expected to be included in the reporting TAS?

No.

(b) requirements to provide an estimate of the effects of any data shortcomings, and that any compensating adjustments should avoid bias?

Only if the shortcomings are easily quantifiable.

9) Should the modelling TAS include a requirement that, if data is grouped, the effects of the grouping should be quantified?

This will not always be practical - see our comments under 5.28. Where it is practical, we agree that the impact of grouping should be quantified.

10) Do respondents agree that best estimates (and other similar estimates) should be independent of the use to which they will be put?

Yes.

11) Do respondents have any views on:

(a) whether biased estimates such as those concerning prudence depend on context?

Yes - prudence depends on context. A prudent view is, by definition, more cautious than best estimate but the extent of the bias depends on the circumstances.

(b) the practicality or otherwise of requiring that the equivalent best estimate be presented alongside every prudent estimate, and the benefits to users of actuarial information of doing so?

We agree that this information should be provided to assist the users of the information though not for each assumption. However, it is not necessarily appropriate to include such information in formal reports.

12) Do respondents have any views on the practicality or otherwise of requiring the use of a range in conjunction with every single point estimate?

We strongly believe that ranges should not be used in conjunction with every single point estimate. This would be an excessive requirement and would provide too much information in many cases. We agree with the comment in 5.80 that this would be impractical in most cases and it could also be very expensive.

13) Do respondents have any comments on the proposals concerning the fitness for purpose of models that are presented in section 6, especially those in paragraphs 6.8, 6.12, 6.20, 6.28 and 6.33?

6.8. We agree that checking is necessary and that checks should be recorded and documented. The documentation should be proportionate and not excessive. It is particularly important to check boundary conditions as this will help clarify any limitations.

6.12. We agree that the outputs from model should be reproducible.

6.20. We do not believe that it would be possible in all cases to state whether the theoretical construct is a satisfactory representation of reality. Proof will only be available in the future in some cases. The “satisfactory representation of reality” is dependent on the context and the use to which the model is put.

6.28. We agree with this principle.

6.33. We agree with this principle.

14) Are there any types of model that cannot be implemented in such a way that they exhibit reproducibility?

We are not aware of any exceptions.

15) Should the modelling TAS include a principle concerning back testing?

(a) Are there any models for which back testing is impossible?

(b) Are there any practical difficulties that might arise if back testing were to be a requirement?

We agree that back testing is best practice and appropriate in most cases. A possible problem is if historic data is not available. Also, any requirement should be proportionate for the purpose and scope of the model.

16) Would it be desirable and practical for users of external models to document the judgements they make, the checks that they perform and other relevant matters, and include explanations of the inputs, outputs and limitations in the same way as they would for models that they themselves have developed? Respondents who believe that this would not be practical should suggest alternative ways in which the objective set out in paragraph 2.9 could be met by users of external models.

It is equally important for users of an external model to fully understand that model as it is for them to understand internal models. However, the information provided by the supplier of the external model may be restricted, e.g. for confidentiality reasons, and hence the same robust approach that is applied to the production of internal models may not be possible in the case of external models. It may be appropriate to include “as far as possible” in this requirement or to require that users of external models stress test to satisfy themselves that the model is fit for purpose.

17) Do respondents agree that requirements for robustness and reasonableness would not be enforceable and could have undesirable consequences?

Yes – this would be impractical.

18) Do respondents have any comments on the proposals concerning the limitations of models that are presented in section 7, especially those in paragraphs 7.29 and 7.41?

7.29. We agree with the principle provided it does not lead to excessive documentation being required.

7.41. The user is often not concerned with many of the low level details of a particular model but will need to understand at a high level why a particular model has been chosen. We agree that material limitations and their implications should be explained.

19) Does the discussion in paragraphs 7.7 to 7.24 include all the major sources of limitations in models?

We believe that this is a comprehensive list.

20) Do respondents have any comments on the advantages and disadvantages of the options set out in paragraphs 7.38 to 7.42?

Of the three options listed in 7.38 - 7.42, we prefer the third. The first option would lead to widely differing approaches being taken by different suppliers of information while the second would lead at times to unnecessary detail that could obscure the message being presented.

21) Should the modelling TAS identify specific types of limitation that should be explained in actuarial information?

No - this could lead to other types of limitation, not included in the TAS, being ignored. However, we feel that 1 or 2 examples for each practice area would be helpful.

22) Are there any matters not covered in this consultation paper that should be addressed in the BAS's modelling TAS?

No

In addition to the specific questions listed above, the BAS invites respondents' views on any other aspects of the proposed generic TAS on modelling. To ensure that the significance of their point is fully appreciated by the BAS, respondents are asked to indicate how their comments would address the BAS's aim of increasing the reliance that users of actuarial information can place on it.

One specific issue that we wish to highlight regards documentation. While we agree that users of actuarial information need to be given appropriate documentation about the information presented, if

the proposals in the paper are fully implemented, the information will, in some cases, be excessive leading to unnecessary additional expense for the user.

We would also strongly highlight the following:

Agreement on the concept, principles and application of a model is necessary but not the complete story. The model in itself may be objective but judgment and subjectivity is required regarding the selection of data, the model itself, the model parameters and the interpretation of the output. The model is something on which to base and justify your advice but this does not mean that one necessarily uses the exact answer provided by the model. There is a danger that the modelling TAS and the resulting documentation etc lead to a false sense of security if the developers/providers of the model do not exercise the appropriate judgment.

We would also suggest that “best estimate” is to a certain extent personal and is often not a point estimate. There is a range which covers “best estimate”. The determination of “best estimate” may lead to a larger or smaller range depending on the materiality and the context (the extent of any effort put in to determining a prudent assumption also depends on the materiality and context). While it may be theoretically valid to refer to “best estimate” as having an equal chance of being under as over, it is generally impossible to frame “best estimate” in such a precise way. In many ways, it may be more helpful to refer to what is “reasonable”.