Annex A

Consultation questions and response form

1. Responses to the consultation should be made by completing the form below, and returning it by e-mail by midday on Wednesday 16 December 2009.

2. All responses should be e-mailed to ref@hefce.ac.uk. In addition:
   a. Responses from institutions in Scotland should be copied to Pauline Jones, Scottish Funding Council, e-mail pjones@sfc.ac.uk.
   b. Responses from institutions in Wales should be copied to Linda Tiller, Higher Education Funding Council for Wales, e-mail linda.tiller@hefcw.ac.uk.
   c. Responses from institutions in Northern Ireland should be copied to the Department for Employment and Learning, e-mail research.branch@delni.gov.uk.

3. We will publish an analysis of responses to the consultation. Additionally, all responses may be disclosed on request, under the terms of the Freedom of Information Act. The Act gives a public right of access to any information held by a public authority, in this case HEFCE. This includes information provided in response to a consultation. We have a responsibility to decide whether any responses, including information about your identity, should be made public or treated as confidential. We can refuse to disclose information only in exceptional circumstances. This means responses to this consultation are unlikely to be treated as confidential except in very particular circumstances. Further information about the Act is available at www.informationcommissioner.gov.uk. Equivalent legislation exists in Scotland.

Respondent’s details

<table>
<thead>
<tr>
<th>Are you responding:</th>
<th>On behalf of an organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Delete one)</td>
<td></td>
</tr>
<tr>
<td>Name of responding organisation/individual</td>
<td>The Institute of Physics</td>
</tr>
<tr>
<td>Type of organisation</td>
<td>Professional body and learned society</td>
</tr>
<tr>
<td>(Delete those that are not applicable)</td>
<td></td>
</tr>
<tr>
<td>Contact name</td>
<td>Professor Peter Main</td>
</tr>
<tr>
<td>Position within organisation</td>
<td>Director, Education and Science</td>
</tr>
<tr>
<td>Contact phone number</td>
<td>020 7470 4800</td>
</tr>
<tr>
<td>Contact e-mail address</td>
<td><a href="mailto:peter.main@iop.org">peter.main@iop.org</a></td>
</tr>
</tbody>
</table>

Consultation questions

(Boxes for responses can be expanded to the desired length.)
**Consultation question 1**: Do you agree with the proposed key features of the REF? If not, explain why.

The Institute is concerned that impact has replaced esteem as an indicator within the assessment framework. We are of the view that downgrading esteem (which is now a part of environment) is regrettable as invited/plenary presentations at international conferences, the award of international prizes and leadership roles in international collaborations are beneficial to the profile and impact of UK science. They are also important indicators of international standing.

In addition, even though in paragraph 27b of the consultation document it is stated that the greatest weight will be allocated to output quality, it is worrying to note that impact will significantly influence the overall outcomes. We understand that the emphasis on impact is a direct consequence of a shift within UK science policy for publicly-funded scientific research to demonstrate economic and societal impact. However, the criteria and methodology proposed are too restrictive to be useful for physics and quite possibly other disciplines as well.

Furthermore, there is no shortage of examples illustrating the significant contributions that have been made to the UK’s economy by physics research, which has impacted on many areas, for example, health, telecommunications, national security, etc. However, the normal pattern for these advances is that fundamental breakthroughs made in physics are often exploited by researchers in other disciplines (e.g. engineering, medicine) from which the eventual impact arises. The current REF proposals explicitly disallow the use of involvement of such advances by the originating physics department; instead it is claimed that this work is recognised solely through the standard academic citation measure. We are of the view that this claim is short-sighted and inconsistent with the manner in which science contributes to society.

Another concern is the extent to which the proposed impact measures are verifiable, let alone quantifiable. It will not be difficult to give precise figures for ‘research contracts and industrial income’. However, less measurable impacts can also be important to society. Unfortunately, assessing the reliability of the impact statements and case studies describing them would be a social science research project in its own right. We recognise the importance of the impact of research, but there are uncertainties both in measuring the impact and the difficulties of crediting that impact when it crosses subject boundaries.

Finally on this issue, there are three further general points to make on impact:

- The consultation document states that a broad definition will be used. However, the wording used to describe it suggests otherwise, with a heavy emphasis on direct exploitation. It would be much better for HEFCE to use a definition that is consistent with that of RCUK, which better recognises the way in which even fundamental research makes significant short-term impact, for example, via the supply of skilled people. The current HEFCE definition, with its bias towards the near-market end of research, runs the risk of damaging UK science, particularly those parts that have major impacts on longer timescales.

- HEFCE needs to be clear what it is trying to do in measuring impact and whether the relatively short-term snapshot of the REF is the correct approach. While we welcome the attempt to measure the impact of research, we feel strongly that it would be preferable for HEFCE to work with RCUK to measure impact in a separate exercise that takes into account all the issues of timescale and so on.
In assessing the quality of published work, either by direct reading or using metrics, it will be possible for panels to compare UK research with that from the rest of the world; the international comparison provides an absolute standard. With impact, it will not be possible to have any similar comparison, nor will it be possible to compare easily across subjects. Therefore, panels will be able only to place units in a relative order. Consequently, the overall assessment will be an unsatisfactory combination of different types of ranking.

Consultation question 2: What comments do you have on the proposed approach to assessing outputs? If you disagree with any of these proposals please explain why.

Comments are especially welcomed on the following proposals:

- that institutions should select research staff and outputs to be assessed
- for the categories of staff eligible for selection, and how they are defined
- for encouraging institutions to submit – and for assessing – all types of high-quality research outputs including applied and translational research
- for the use of citation information to inform the review of outputs in appropriate UOAs (including the range of appropriate UOAs, the type of citation information that should be provided to panels as outlined in Annex C, and the flexibility panels should have in using the information)

and on the following options:

- whether there should be a maximum of three or four outputs submitted per researcher
- whether certain types of output should be ‘double weighted’ and if so, how these could be defined.

In principle, the Institute is happy with the proposals outlined for assessing outputs and agrees that HEIs should select staff (as long as the career stage of a researcher is fully taken into account in the assessment of excellence) and outputs. But we have the following comments in response to issues raised in the consultation document:

i) Paragraph 33: We do not believe that it is appropriate to select staff in terms of their address on the census date, except in terms of the research environment and the volume element. This approach is inconsistent with the stated aim of the REF to assess the research undertaken in the unit over a five year period, as it encourages the ‘poaching’ of staff and is patently unfair to the units that might lose staff towards the end of the assessment period. By far the best way to undertake the assessment at the unit level is that the address that appears on the publication is the one that is used. This is essentially unambiguous and totally transparent. Note that, if the plans to measure impact in the way suggested are implemented, this point will be more relevant for many more UOAs as staff change over a period of 10-15 years. Indeed, the use of the address on the census date in this context could lead to some bizarre consequences.

ii) Paragraph 34: As the text currently reads, it appears that emeritus staff still working and publishing from a departmental address will be excluded. If so, this is regrettable as such eminent staff still influence and contribute to the excellence of the research undertaken in a unit and should be included on the basis that they meet the criteria of published papers, industrial
funding, etc. Furthermore, if impact from 10-15 years ago is included in a unit’s submission, then such staff will need to be involved. In addition, in RAE2008 there were cases where staff members were employed outside the HEI, including abroad, and had contracts one day per week. This had a big impact on esteem, and such staff should also be included.

iii) The Institute has no major view on whether there should be 3 or 4 outputs, but if the REF is to be undertaken in 2013 as currently planned, then the timeframe between it and RAE2008 makes the selection of 3 outputs to be preferential. However, this does have some relevance for the fraction of work that is considered internationally excellent, etc., as it is obvious that the fewer the submissions, the more likely, on average, the work is to be of a higher quality. In addition, in some areas, a method to recognise a prolific publication record may be desirable.

iv) Paragraph 38: We have some concerns about the use of grey literature and other outputs that are not published in conventional forms. We appreciate and understand that the REF will try to be comprehensive and accommodating in the range of material academic staff are permitted to submit, but we note that panels are not intending to read all submissions; thus it is difficult to see how grey literature submissions can be assessed. This makes it all the more important that panels either read all submitted grey literature, or explicitly do not allow it. However, any references made to grey literature that is subsequently published should be included.

v) We are concerned by the use of terminology in the consultation document, i.e. in paragraph 39 where the term ‘significance’ is being used to describe impact. Consistency would be appreciated on this from HEFCE. Furthermore, more information should be provided to HEIs as to what they are expected to submit in the ‘short statement’ that is mentioned in paragraph 40, and perhaps a strict word limit should also be set.

vi) Paragraph 41: The definitions of the various levels were not consistently applied for RAE2008 and they are now even more subjective. Quite what does one make of “internationally excellent ….but which nonetheless falls short of the highest standards of excellence”? We also note that the distinction between national and international bears little examination. Some areas, such as astronomy and particle physics, are international by their nature. Others will be similarly national in their scope.

vii) We are pleased to note in paragraph 44 that citation data will be used as a guide to the panel experts and not as an algorithmic indicator, and that such data will focus on solely the quality of selected outputs as opposed to volume.

However, there are some issues of concern. In the short term, truly ground-breaking research may be very poorly cited, thus, the choice of outputs will be skewed by the use of citations. Academics will tend to choose an older output which has accumulated some citations, rather than a paper published close to the deadline. This is clearly not a healthy situation.

In addition, we note that there are still some major issues in citation studies surrounding publications in areas such as astronomy and particle physics, where there might be hundreds (or even thousands) of authors on some key papers and also in dealing with self-citations in connection with, for example, crystal growers who might supply many different groups with samples but not play much of a role in their investigation. As this is a major issue for physics as a
discipline, the Institute is preparing a briefing paper that we aim to submit to the REF physics sub-panel with the hope of enabling it to deal effectively with these issues.

viii) Paragraph 45b: The selection of citation databases is a critical issue. For physics there is an important distinction to be made between databases that track the citation of a paper from its pre-print stage onwards (e.g. the Astronomy Data Service) against those that only track a paper once it has appeared in print (e.g. Web of Science). The latter always comes up with significantly fewer citations, which is a major issue for astronomy and particle physics, where the citation of a paper in its pre-print form represents a significant number of citations.

ix) Paragraph 50b: We cautiously support the use of ‘double-weighting’ by panels, where appropriate. However, it is not clear whether the choice of double-weighting will be given to the HEI or it will be just applied to a certain class of publication.

x) The following are some specific comments on Annex C regarding the use of citation information:

- In response to paragraph 3, will HEFCE be asking researchers to define the relevant citation database for their research?

- In the bibliometric data example given in footnote 16, where it is stated that HEFCE would not provide citation information for other document types such as letters, does this mean that any article from Physical Review Letters, for example, will be omitted? Also in response to footnote 18 where it is stated that, “This is the average number of citations to all papers worldwide in the same field, published in the same year, and the same document type”, how will HEFCE manage interdisciplinary journal articles within this context, i.e. which field will they be compared to? This is particularly important for fields such as medical physics where the choice of field could influence how an article is perceived due to the different citation patterns adopted in research fields as described previously.

Consultation question 3: What comments do you have on the proposed approach to assessing impact? If you disagree with any of these proposals please explain why.

Comments are especially welcomed on the following:
• how we propose to address the key challenges of time lags and attribution
• the type of evidence to be submitted, in the form of case studies and an impact statement supported by indicators (including comments on the initial template for case studies and menu of indicators at Annex D)
• the criteria for assessing impact and the definition of levels for the impact sub-profile
• the role of research users in assessing impact.

The methods proposed for assessing impact reveal a narrower interpretation of impact to be measured than those described by RCUK. The challenges posed by time lag and attribution are severe, to the extent that effectively and fairly judging the contribution of a given unit through the methods proposed is essentially impossible. In addition, there is a danger that the REF will be judging the ‘impact’ of a discipline rather than the quality of the research within a discipline.
The Institute hopes that HEFCE carefully considers the following comments (in addition to those in the report it commissioned from RAND Europe which was recently published – some of which align with our comments) and that during the pilot phase of testing impact it unearths a straightforward, quantitative and robust method for measuring impact that can be consistently applied across all submitted units (as far as possible while acknowledging that units will be naturally involved at different stages of the impact process) and is not too burdensome on the HE sector and private organisations that employ research users. Of course, it will be much easier to provide constructive comments after the pilot scheme has been undertaken and evaluated; we hope HEFCE provides the opportunity to do so.

On the subject of research users, in attempting to assess the impact of academic research it is right to recruit them onto the panels in an appropriate capacity to undertake the evaluations. However, by its nature such assessment exercises are burdensome, even more so with the request for impact statements and case studies, so private sector organisations feeling financial pressures may be reluctant to allow their best people to spend time working on the REF. Therefore, there will be a need to include appropriate processes to allow panel members from outside academia to be involved at the relevant stages, such as impact and also environment, while not over-burdening them with casework.

The following are some specific comments in response to issues raised in the consultation document:

i) As already mentioned, there is a major issue concerning the time lag for impact. Of course, research takes time to filter through but it makes no sense at all to be assessing the publications of one set of people and the research impact of another set of people who might have been in the same unit 10-15 years earlier. It would be a logistical nightmare and, what is more, the results would be meaningless as they would bear little relevance to the current situation. Furthermore, the hit and miss nature of research, which has to be seen as a global effort in this respect, will often mean that successful exploitation in the past will be of no guide to the future.

In addition, the proposals need to recognise that some form of impact (indeed often the most profound ones) have very long timescales, i.e. may not be measureable in one or even several REF assessment periods. The appropriate timescale will certainly differ between UOAs. In physics, for example, the time taken between the essential breakthrough in the science and the subsequent application is often at least 15-25 years (it wasn’t so long ago that the laser was dismissed as a physicist’s toy).

ii) We disagree in the strongest possible way with the statements in paragraphs 55b and 68, where it is stated that it is not sufficient for the research to have impact, but that researchers must also have been involved in the exploitation themselves. This is wrong on many levels as true impact is all about what others have progressed to achieve using the underpinning research, not what the researchers did themselves. First, people good at research may not be the best people to exploit it and are better spending time on doing more research. Second, it is often difficult to unravel exploitation of a piece of research that is in an area pursued by many teams. Third, it is patently unfair; if someone makes a major discovery, such as fullerenes, they have had a major impact regardless of who exploits it.
iii) Paragraph 55c deals with the problems in quantifying impact and does not make sense. It states that there will be no attempt to quantify impact but that assessors will produce "graded impact sub-profiles." The distinction between grading and quantifying is subtle to say the least. Isn’t this paragraph merely stating that the assessors will try to quantify their subjective impressions, a dubious process at best?

iv) There are two major problems with the idea of providing case studies which are mentioned in paragraph 59 onwards. First, it represents a naïve view of how research impacts on the environment, particularly research that is not immediately of direct impact to the economy (in the case of physics, the historical record clearly demonstrates that a great deal of research which eventually transpired to have huge impact was not recognised as such at the time). Usually, there is a body of work, which progresses by collaboration between groups and the work enters the knowledge base. Of course, there are major steps forward but for the most part, it is very difficult to point to a particular unit that might have responsibility. This will be particularly true for major international collaborations. Second, the Institute knows from its own direct experience that this type of case study is very difficult indeed to carry out in any sort of intellectually respectable manner. The case studies would represent a prodigious and unacceptable increase in workload for HEIs and, even then, would most likely not produce anything effective (in some fields these case studies might become a mere essay writing competition). This is not the way to measure impact, except in the areas where there is direct business involvement and an obvious linear progression from research to exploitation.

In addition, the plan to link one case study to 5-10 staff seems arbitrary and not linked to any evidence base.

v) The ‘impact statement’ proposal in paragraph 63 is difficult to understand, given the long timescale for impact to emerge. The submitted unit will not in general be the same as the unit that produced the impact. In addition, some of the requirements listed in paragraph 64 will be unrealistically difficult for an HEI to identify, for example, the overview. In addition, some of the indicators of research income are nonsensical. For instance, the mere fact that research is being funded by a government department is not in itself an indicator of impact, etc. It is important here to distinguish between measuring actual impact as opposed to the potential for impact.

However, it is reasonable to ask for an overview of how the current unit maximises impact; perhaps HEFCE should request units to submit impact plans focusing on potential impact akin to those requested by RCUK for research grant applications? HEFCE could allow each research submission to include an impact assessment/plan for each research group, including track record. These plans would be evaluated in detail in the subsequent REF exercise (i.e. 5-7 years later). Of course, there is the issue of timeframes (i.e. physics research bears fruit upwards of 10-15 years), but at least this will coordinate policy across the funding agencies, which is a very important consideration in itself, and allow sufficient time for a robust method of impact to be demonstrated and implemented. The key test of these plans will be whether research with a healthy people pipeline, strong outreach, effective knowledge transfer to international academics and industry would be able to score highly on impact.

vi) How the panels would assess impact is very vague and there are some curious statements. But one principle is that units must know in advance what the criteria are going to be. The statement in paragraph 72 asserting that a unit would be expected to have an impact in many of
its areas is arbitrary and unrealistic and again betrays a lack of appreciation of how research works.

vii) Paragraph 75 describes an important point about the convoluted manner in which impact can manifest itself and is to be welcomed. However, it appears inconsistent with the approach described in paragraph 68 and this discrepancy needs some clarification.

viii) The draft definitions on levels for impact appear inconsistent with the broader definition of impact, an impression strengthened by the menu in Annex D. Given the differences in subjects between say, classics and aeronautical engineering, they are so general as to be useless and the only way that they would be useful at all would be if they were produced at the subject level.

As a general point on impact, which is recognised in the consultation document, the supply of skilled people is one of the most important outputs but (a) the template in Annex D does not really recognise that and, more importantly, (b) how can one possibly expect a unit to offer evidence for that impact?

ix) We have some further comments on the common menu of impact indicators in Annex D:

- ‘Delivering highly skilled people’ – it should be clear that ‘staff movement’ should include PhDs.

- There should be a heading for ‘schools’ – impact on teacher training and curriculum development, for instance, may result from research activities. This is already hinted at in the main text in paragraph 52b.

Consultation question 4: Do you have any comments on the proposed approach to assessing research environment?

The following are some specific comments in response to issues raised in the consultation document:

i) The criteria are mostly objective, i.e. research income, PhD students, management, outreach, etc., but some of them disadvantage young, up and coming groups compared to groups with more established, better connected staff.

ii) We are sceptical that research income should be used as a part of a review of research outputs; it is difficult to see why a unit that uses more money from research councils to achieve the same level of output as another less profligate one should be considered superior. In terms of the environment, what matters is how well equipped the unit is so one useful measure must be the extent to which the HEI supports it.

iii) The idea of critical mass is a difficult one. If the research outputs are of high quality, then considerations of critical mass are not relevant. On the other hand, where the output standard is low, the panel might feedback a comment that the unit has not sufficient volume, if that is the case. However, we recognise that, in some subjects, there are pockets of excellence in many small departments and we would not like them to be downgraded by some arbitrary requirement for critical mass.
iv) There is the ongoing issue of the submission of beam time allocated at international research facilities. This must be included in an appropriate manner (i.e. data could be collected easily with a spokesperson or PI as the identifier with the facility verifying time allocated and the equivalent cost) as this is a measure of excellence and one should be credited with the running costs of the facility time awarded.

**Consultation question 5:** Do you agree with our proposals for combining and weighting the output, impact and environment sub-profiles? If not please propose an alternative and explain why this is preferable.

The following are some specific comments in response to issues raised in the consultation document:

i) We welcome the notion that all UOAs should have the same weighting for the three indicators as that indeed will reduce game playing.

Furthermore, it is correct to give the highest weighting to output quality but we are extremely concerned that impact is combined into the excellence profile in this manner. We repeat our statement that impact and output assessments refer to completely different timescales (and, quite possibly, different sets of people) and it is naïve in the extreme to try to combine them in this way. Although it is important to measure impact, it is not possible to shoehorn such a complex parameter into an assessment of this type.

Hence, we are of the firm view that 25% for impact is simply too high for an indicator that is not a measure of current research, which will be the aim of the REF. Based on our comments to questions 1 and 3, we are of the view that the total weight for impact should be reduced to between 10-15% and that it should be used to make minor corrections to the rankings between HEIs, or at least it should be weighted in common with environment and the weighting given to output quality is increased. A lower weighting should be used until it can be demonstrated that impact will be able to be measured in a way that has the full confidence of all stakeholders.

ii) Once again, the draft definitions are meaningless. To say that 4* refers to the “highest standards of …excellence and impact” is mere tautology since the highest grade obviously refers to the highest standards. The other definitions are no better; the one for “unclassified” is a particularly poor example. Panels will need to give far more guidance at the subject level if these definitions are to be of any use at all.

**Consultation question 6:** What comments do you have on the panel configuration proposed at Annex E? Where suggesting alternative options for specific UOAs, please provide the reasons for this.

The nature of impact and degree of short-term economic impact are very different, for example, between physics and engineering; there are no absolute comparisons for impact, either internationally or between subjects that are trying to achieve different things. RAE2008 threw up false anomalies between UOAs concerning the degree of excellence. If the present REF plan is implemented we could find that, because of impact, engineering scores systematically higher than physics. Therefore, in order to judge the impact of subjects relative to each other, a more robust method needs to be devised.
Consultation question 7: Do you agree with the proposed approach to ensuring consistency between panels?

The following are some specific comments in response to issues raised in the consultation document:

i) We have reservations that the different elements of the assessment should be treated in a similar way across the main panels. Within Panel B, for example, there will be major differences between the subjects, in some cases as large as the differences between the main panels themselves. For example, one would expect engineering to be much closer to industry than pure mathematics. Furthermore, in previous RAESs, it is known that the correlation between citations and grading has been anomalous for engineering relative to the sciences.

ii) The measures listed in paragraph 101 are to be welcomed but we think it is important that, as far as possible, subject panels provide information to units before submission. For example, it is important that units know the preferred indicators of impact.

iii) An issue that arose with the RAE was the comparison between subjects and it was never clear to what extent one could look at the different profiles for subjects and make comparisons of the type, for example, subject X is more internationally competitive than subject Y. HEFCE needs to be clear on whether comparisons of this type will be valid and either state clearly that they are not or be equally clear on what methods they will use to support their comparison. As a concrete example, after RAE2008, some commentators pointed out that physics was apparently behind other sciences according to the ratings but the citation analysis of the submitted publications told completely the opposite story.

iv) Whatever misgivings might be held regarding citation metrics when applying them to assessing individuals, if applied to whole communities they do seem to be a robust measure of outputs. Citation metrics may be a very powerful tool for the cross calibration of outputs. However, before comparison of different UOAs, it is essential that all citation metrics are expressed in relation to world averages for each field of research.

Consultation question 8: Do you have any suggested additions or amendments to the list of nominating bodies? (If suggesting additional bodies, please provide their names and addresses and indicate how they are qualified to make nominations.)

The list of nominating bodies looks extensive. However, there is not a strong trade association representation, and the requirement to nominate assessors three years in advance of the REF does not sit comfortably with the time constraints of staff movement within the private sector. Including research users from a diverse range of companies is essential (i.e. mid-sized companies and SMEs, apart from HEI spin-outs) and not just those that have their own research activities. In addition, it might be that greater international involvement should be sought.

Consultation question 9: Do you agree that our proposed approach will ensure that interdisciplinary research is assessed on an equal footing with other types of research? Are there further measures we should consider to ensure that this is the case and that our approach is well understood?

It is interesting to read that the RAE2008 expert panels felt that they were able to assess interdisciplinary research and that HEFCE will look at how to better ensure that the REF
encourages such research, as an increasing amount of research is interdisciplinary in nature and fully appropriate assessment procedures are needed. However, despite the statement that previous panels insist that interdisciplinary research has not been a problem, some units feel aggrieved and are convinced that it is, and there is still a widely held belief that interdisciplinary research was not well treated by any RAE.

Our interpretation is that the situation is more subtle than is immediately apparent and is related to the labelling of the UOAs. To take physics as an example, departments tend to submit to the physics panel the work that they think the panel will rate highly, which tends to be the purer elements of the subject. Work on the boundary between physics and biology, or physics and engineering may well be overall excellent but the physics components may not be leading edge in themselves. There is a common feeling that such research is not treated fairly and we have strong anecdotal evidence that one of the effects of the RAE has been to suppress the existence of such work within physics departments. Such concerns were also raised in the RCUK Review of UK Physics.

Consultation question 10: Do you agree that our proposals for encouraging and supporting researcher mobility will have a positive effect; and are there other measures that should be taken within the REF to this end?

We support the proposals concerning submissions for researchers who have spent time in industry and other sectors, as recognising the importance of researcher mobility, of demonstrable benefit where it has taken place, is valuable.

In addition, we agree with the principle of not discriminating against staff that joined units during the assessment period. But it is important to have procedures in place to guard against the practice (which was widespread in RAE2008) of hiring junior staff on short-term contracts in order to benefit from research primarily undertaken elsewhere.

However, the proposal in paragraph 110d does not sit happily in the REF. It seems to be more of an attempt towards social engineering than an attempt to assess research excellence. If the exchange of staff between academia and other sectors is beneficial to research, that should come out in the rest of the assessment; there is no need to assess it. If a measure of this type is included, then why not also include other similar measures, such as a strong record in diversity (see response to question 11), or in encouraging new talent, etc.?

Consultation question 11: Are there any further ways in which we could improve the measures to promote equalities and diversity?

Units could be required to assess themselves against equality benchmarks. They could also state how they are linking to such schemes as the Research Concordat and Athena SWAN (and the Institute’s own Project JUNO for physics departments).

An important issue that we have raised in earlier submissions on the RAE is still an area of concern. The RAE has created a very competitive research environment in which researchers’ activity between the ages of 25 and 35 determines their career prospects. These are just the ages when many couples start a family and it is entirely likely that many women will have spells of maternity leave in this period. While the REF cannot change that fact, it can insist that HEIs explain how they combat that problem and how they deal with diversity issues at the appointment
stage. The Institute’s own work in this area has shown that there is considerable difference in practice in this area and the potential for unfair discrimination.

Consultation question 12: Do you have any comments about the proposed timetable?

The timetable will be very tight if, as we expect, there are problems emerging from the pilots on the untested impact proposals, which are far too rudimentary at present to allow all of the issues to be resolved within the given timeframe.

Consultation question 13: Are there any further areas in which we could reduce burden, without compromising the robustness of the process?

Overall the REF will create a significant increase in workload. The measures listed in paragraph 122 are slight compared with the effect of the impact assessment. The Institute has direct experience of looking at case studies of this type and we believe that HEFCE has drastically underestimated the work load requirements.

Consultation question 14: Do you have any other comments on the proposals?

In closing, the following are some general concerns that we have with regards to research assessment in the UK which we hope will be taken into due consideration by HEFCE when it finalises its proposals for the REF.

The RAE has changed the way that UK physics departments are shaped and in a different way to what is the case abroad. The need to make an impact in each area of research means that most departments have a limited number of groups, rather than a broad range of research in smaller groups. In addition, the nature of research areas such as astronomy and particle physics is to foster collaboration as opposed to competition. The RAE increased competition which led to a lack of efficiency in terms of pooling (finite) resources, etc. The pressure is not going to become any less in the REF. Thus, it is imperative that the REF is fully understood before the exercise takes place to avoid such unintended consequences.

Furthermore, the huge amount of high-quality (but in itself not ground breaking) work which underpins progress in science is not recognised in the REF assessment framework. Science cannot progress simply because of a few high-profile breakthroughs, many of which may be serendipitous (and which deserve high recognition), but also relies on much more routine but skilful exploration. We are in danger of relegating the importance of such work.