1. **INTRODUCTORY REMARKS**

1.1 Dr Golby welcomed attendees, in particular the Right Honourable David Willetts, Minister for Universities and Science, and Professor Sir Keith Burnett who was attending for item 4.

1.2 Apologies had been received from Professor King, Professor Finkelstein and Professor Gibson.
1.3 Dr Golby informed attendees that the meeting was being observed by staff from Technopolis, who had been commissioned to undertake the effectiveness review of Council.

2. **SPENDING REVIEW 2013 SETTLEMENT** (Oral)

2.1 Professor Delpy gave a brief summary of the science vote settlement in the recent Spending Review announcement by the Chancellor of the Exchequer. He thanked the Minister for achieving a flat cash outcome for the resource budget and maintenance of the ring-fence for science funding, while noting that this would mean a real-terms decrease. He also reported the increase in capital investment to £1.1bn, which would include additional capital sums for further rounds of RPIF. He said that the detailed allocations to Research Councils were not likely to be known until the autumn statement, and after the completion of the Triennial Review, a timing which afforded further opportunity to advocate for EPSRC’s ambitions.

3. **MINISTER’S ADDRESS & DISCUSSION** (Oral)

3.1 The Minister thanked Council for the opportunity to attend its meeting, and noted that his attendance was made in the spirit of the Haldane principle.

3.2 The Minister said that, for resource in 2015/16, a roll forward at level funding was a reasonable outcome, given pressures on public spending. The additional investment in capital was a major success, with the 2014/15 figure to be taken as a baseline right through to 2020. He observed that the investment was important in order to enable long-term planning, and that the launch of new infrastructure today was the product of capital investment decisions in the past. He also said that investment in less glamorous, smaller capital items was important. The Minister acknowledged the need for an appropriate resource budget alongside this significant boost for capital to get the best from the investment.

3.3 The Minister highlighted efficiency measures to enable more research, such as the N8 work on equipment sharing, noting that this gave tax-payers confidence that savings were directed into further investment in research.

3.4 Council members made a number of observations in response, as follows:

i) Investing in infrastructure was a strong way to attract investment from industry though it was essential to have the people and skills too, in order to form effective research teams;
ii) It was important to recognise that around one quarter of EPSRC’s portfolio was not directly aligned to the Government’s Industrial Strategy nor the Eight Great Technologies, and that this segment would be the source of the next technologies. The Minister agreed, noting that an investment in “non-utilitarian” research was crucial;

iii) The fundamental need was to train people so that they were able to think of new ideas and take research in unforeseen directions;

iv) The bids into the CDT outline call were notable for the degree of industry interest in the “blue-skies” proposals as much as in the more applied ones. It was a myth that industry did not support fundamental research – there was positive support for it.

3.5 The Minister asked how the curiosity-driven element of the portfolio could be measured. Council members said that it was difficult to quantify this since there was curiosity throughout the portfolio, although the division between ‘capability’ and ‘challenge programmes’ (at 60:40) gave a rough indication of the distinction between researcher-led and directed modes.

3.6 Professor Watson noted that Arup had done some work with Imperial Business School to measure “blue-skies” research, which could perhaps inform this question.

3.7 The Chairman thanked the Minister for his comments.

4. CENTRES FOR DOCTORAL TRAINING (Oral)

4.1 The chairman introduced Professor Sir Keith Burnett who had chaired the moderation panel of the eight assessment panels for the CDT outline call. Sir Keith outlined his reflections on the call process, prefacing his statement by saying that EPSRC had pioneered this inspirational form of training scheme with its emphasis on cohort training, and support from industry, an approach that was strongly aligned to the nation’s need for a highly-skilled, flexible workforce which could innovate and produce new products and services and be the future leaders. He said that the scale of the activity was large, and represented a big commitment from EPSRC, both in terms of investment and the staff resource to run the exercise. It was also significant in terms of the effort needed in universities to respond to a call of this nature and to run and manage CDTs in line with the desired philosophy and principles.
4.2 Sir Keith summarised the call outcomes: 356 proposals from 56 universities with a total bid value of £1.6bn, plus £1bn leverage from non-EPSRC sources and with 177 (50%) proposals invited to submit full proposals. The role of the moderation panel had been to provide assurance that the assessment criteria were applied consistently, and/or that there was no inadvertent invention of new criteria. He had been satisfied that the process was rigorous and fair. Sir Keith finished by saying that the organisation of the call and the outline assessment process had been immaculate.

4.3 In response, Council members asked a number of questions and/or made observations, as below:

i) Had there been any quality discrepancies between the different panels and themes? Sir Keith said the moderating panel had especially looked at this and had found a great degree of consistency. Neither was there any discernible difference between the approach to and emphasis on doctoral training;

ii) The panels had been rigorous in applying the call criteria, their emphasis being on the cohort aspects of the centre, the development of career skills and the impact for industrial partners. The criteria structure ensured that the content of bids was under scrutiny, not the reputation of bidders;

iii) There had been no particular difficulties in making assessment decisions arising from the fact that new centres were in competition with existing centres. Some existing centres had not been invited to submit a full proposal;

iv) The strength and effectiveness of the collaborations, both between universities and with industrial partners, was an area that the panels had especially probed. There was evidence that industrial collaborations were now more fully formed, where in the past they had often appeared to be simple letters of support;

v) The overall balance between the topic areas was an outcome of the individual panels’ prioritisation process. The alignment to the call topics had been strong, with only a few bids in unexpected areas. This reflected well on the process used to work up the areas, involving a combination of Executive input, SAT advice and a Council-SAN sub-set. The latter group had also helped to refine the call criteria;

vi) There had been no need to actively solicit proposals, suggesting that, unlike in the previous major call, in 2007, the academic community was now better tuned into the CDT model, and its philosophy;
vii) There were topic areas where a single-student approach remained an appropriate option: this was supported by the institution-level doctoral training grant, which remained EPSRC’s largest doctoral investment;

viii) The cohort model for training was now being adopted by competitor nations. Members said that, within the terms of the criteria used for CDTs (e.g. the level of user engagement), the UK was best in class for this kind of doctoral training. It was noted that 43% of EPSRC students immediately move into industry or the public sector, with another 30%+ going after their first post-doctoral position. Data was not yet broken down between EPSRC’s different doctoral methods; however, evidence from the outcomes of the EngDoc model suggested that graduates of that scheme (which was analogous to CDTs) entered occupational posts at a higher level and progressed more quickly than standard doctoral students;

ix) Had selection been unconstrained by budget, there were potentially an additional hundred proposals that might have been invited to bid. There appeared to be sufficient demand: current centres were over-subscribed. A key dependency was the availability of supervisors and a critical mass of researchers;

x) Those members of Council who had been involved in writing bids were reassured to hear from Sir Keith that the process had been robust.

4.4 Dr Viner outlined the process for the full proposals stage: the closing date was on the 18 of July; there would be sixteen assessment panels, each taking ten to twelve proposals, with interviews scheduled for 23 and 24 October; the panels, populated by semi-generalists, would be preceded by expert postal peer review. Cohorts would begin in October 2014.

4.5 Discussion broadened out to other areas where EPSRC was well aligned to government ambitions: members noted that EPSRC’s investment led to significant benefits including contact between industry and academia and well-trained individuals. For Microsoft, for example, around half of its staff intake came through EPSRC, and Arup had contact with 47% of all EPSRC’s built environment research. Moreover, there was strong alignment between the government’s infrastructure investment through the RPIF scheme, with around 80+% of the programmes being in EPSRC’s remit, and in universities which held CDTs, resulting in links between capital and skilled people and strong research environments.
4.6 The Minister invited feedback on the Industrial Strategy (IS) and Eight Great Technologies. He noted that the existence of the IS had helped to leverage the additional capital in the 2012 Autumn Statement, while the technologies represented a distillation of advice into a framework that was not meant to be prescriptive or definitive but should provide a direction.

4.7 Members commented that these frameworks were helpful, and were sufficiently flexible for academia and business to respond to. There was scope to identify the ninth and tenth technologies; the Minister agreed and said he was open to ideas on this. Members said that the private sector was also encouraged by the frameworks, and that the long-term capital announcement represented a strong statement to industry. The capital commitments would ultimately be made real by the underpinning science which EPSRC sponsored.

4.8 The Minister invited comment on that portion of the research investment not overtly aligned to government priorities: was the value fully captured from that? Members cited highly successful spin-outs from the research base such as Surrey Satellite Technology Ltd, whilst the Cambridge High-Tech Hub represented a knowledge and skills base from which the overall effect could not readily be quantified.

4.9 Members commented on the internationalisation of EPSRC research, with some 55% of papers having an overseas co-author. There was a correlation between stewardship of the research base and an increase in international standing – for example, Engineering had recently risen to 2 in the world.

4.10 The Minister asked Council to comment on the opportunities for spreading international collaboration to emerging nations such as Mexico, Turkey, Malaysia, Indonesia and Columbia. Members said there was already strong internationalisation through the CDTs, with scope for further opportunities. The Minister said he would be interested to learn more information about this and suggested working with UKTI through Jeremy Clayton. There was an opportunity to seek funding from outside the science budget ring fence; for example from DFID or industry.

4.11 The Chairman thanked the Minister for his attendance and helpful observations. The Minister thanked Council for the opportunity to attend the meeting, and commended Council for all its excellent work.

4.12 Following the Minister’s departure, Council agreed to a number of actions to build on the discussion:
Consider how to measure/capture the value of the “blue-skies” element in the portfolio to inform policy discussions and decision-making. This might include involving the Treasury;

ii) Identify to the Minister an illustrative set of those CDT outline proposals which fell below the decision cut-off to flag the unmet demand;

iii) Provide information to the Minister on the internationalisation opportunities in CDTs;

iv) Identify and propose to the Minister potential ninth and tenth technologies.

5. **INDEPENDENT REVIEW OF STRATEGIC ADVISORY STREAMS (EPSRC 27-13)**

5.1 The Chairman introduced Dr Suzanne Fortier, who had chaired the review, and Dr Richard Brook, one of the panel members. Dr Fortier presented the Panel’s report and recommendations to Council. She prefaced her remarks with a general point that, worldwide, research-funding agencies were going through change, adapting to the importance of their contribution to the knowledge base and innovation. On top of this, there was a greater pressure from the constituency of these agencies for effective consultation and communication. Dr Fortier also said that in a review of this sort there was a degree of inevitability that respondents would focus on the negative aspects of the operations and processes under scrutiny.

5.2 Dr Fortier summarised the Panel’s recommendations. She highlighted in particular the transparency issues cited in the report, and the need for more inclusive communication and participation - rather than briefings - coupled with more visible staff. She noted that the array of advisory structures had been agile and effective, but there was scope to improve them and to enhance the line of sight to Council. Dr Fortier said that the extraordinary efficiency of EPSRC staff was evident but that resource constraints had had an impact on their ability to link adequately with the community.

5.3 Dr Fortier stressed that the report aimed to look forward, recognising the capabilities of the current mechanisms but identifying areas of improvement.

5.3 Professor Brook added two further observations: firstly, there were undeniable effects from the constraints on administration resources; and secondly, that the number of changes recently introduced by EPSRC meant that the complexity of the environment was
increasing. Given this, it was imperative to understand the landscape and to get right the detail of the processes deployed.

5.4 Council members responded to the Panel as below:

i) The timeline indicated in the report did not reflect that the development of Shaping Capability had begun under the former advisory panel structure\(^1\), with those panels having been fully engaged in the provision of advice, followed by the consultation period which happened after the change to the new structure. Dr Fortier said that the Panel had been aware of the change of structure, noting that the SATs had been in place throughout. Professor Brook said a key point was that some SAT members who spoke to the Panel had felt that they could not discern how their advice was used;

ii) Members asked the Panel whether there had been feedback on any of the positive EPSRC examples of strategic interaction, such as the CDT call or the development of the Strategic Plan. Members noted that even Shaping Capability was positively welcomed in large parts of the community. Professor Brook said that this had not come through in the responses, although the Panel had understood that this was in the nature of reviews of this kind. On CDTs, he said there was implicit acceptance in the review responses that the mechanism was a good thing. Dr Fortier said that the review was not about the strategic decisions, and there was absolutely no suggestion of them being revisited. Rather the review was about the perceptions regarding the process of how the decisions had been reached;

iii) Members noted that, contrary to the perceptions expressed, Council had been fully aware of the ramifications of their decisions, and had understood that they were faced with difficult choices. Professor Brook said the feedback loop to the advice streams and to the wider community could have been clearer;

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\(^1\) The Technical Opportunities Panel, the User Panel and the Societal Issues Panel.
iv) Members asked the Panel whether it had any steer as to how Council itself might operate more effectively. Dr Fortier said that there was little feedback on Council, with comments having been largely confined to the advice streams, with the SATs being the primary focus. On specifics, it was apparent that people – including some SAT members themselves - were uncertain of their role; for example, to what extent did they have permission/were expected to discuss issues with their community? Moreover, there was a concern that Council had insufficient sight of the advice;

v) Members said that, whilst it was largely implicit, the report could be clearer that the current mechanisms were effective and were “not broken”. Similarly, the text could have been even clearer regarding the degree to which the resource constraints had limited EPSRC’s ability to consult with its community;

vi) Members affirmed the statements in the report regarding the integrity and hard work of the staff.

5.5 Members made specific observations on some of the recommendations:

i) Recommendation 15 contained an implied, though erroneous, suggestion that increasing resources might be in the Council’s gift. Dr Fortier said that this recommendation was intended in part to provide support to the Council in seeking resources from BIS, with an implied warning that further cuts could cause irreparable damage;

ii) Recommendation 4 implied that Council had not had plans for previous strategic activities – which was not the case: both project plans and clear communication plans had been formed for all of the aspects covered by the review.

5.6 Dr Fortier said that she would reflect on Council’s comments and make any final amendments to the report as necessary. The Chairman thanked Dr Fortier and Professor Brook (and in absentia the other Panel members) for all their efforts. The Panel members left the meeting.

5.7 Dr Golby asked Council to consider next steps. He summarised the emerging view that the recommendations were sensible and recognisable as ways to improve processes. However, the recommendations bore further consideration to identify priorities and how best to move to implementation, given the acknowledged resource environment. By the same token, there were probably ideas that could be implemented quickly. The Chairman proposed
that, in the first instance, Council should appoint a sub-set of members to work with the executive to consider and prioritise the recommendations, bringing a plan to the October Council meeting. Council agreed to this approach. Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

5.8 Council agreed that the intent of the report and Council’s response to it was to be forward-looking and positive in seeking improvements to the strategic advisory processes, and that there was no intent whatsoever to re-visit Council policies in response. Council therefore agreed to publish the report as soon as possible, and said that the accompanying messages should include statements about the Council’s resource environment and about action already taken to address some of the aspects picked up in the report – for example, involving Council members in SAN member selection to increase Council’s sight of the process.

6. PLANS FOR COUNCIL OPEN FORUM (EPSRC 26-13)

6.1 Professor Delpy introduced the item by saying that the principle behind the event was to raise the visibility of Council members to the broad community. The event would be geared around members themselves leading the various proposed sessions.

6.2 Members made a number of specific comments to guide the composition of the event:

i) Space should be made for the inclusion of science and engineering, and with an overt emphasis on excellence: case studies could be displayed under each of the strategic goal areas, for example – although care would be needed in the selection of these;

ii) Equally, there was scope to draw the distinction between the “blue-skies” part of the portfolio and the more obviously growth-aligned part, as in the discussions earlier in the meeting;

iii) It should be possible to highlight the Council’s responsiveness to the capital funds;

iv) The event should include a forward-looking element, with the larger Comprehensive Spending Review on the horizon.
6.3 Council agreed with the principle for the Open Forum and affirmed its commitment to participation in the way proposed. Individual members identified specific topics on which they could talk; remaining members were asked to inform the secretary of any preferences for how they wanted to contribute.

7. **MINUTES OF THE MEETING 22 MAY 2013**

7.1 The minutes of the previous meeting were amended as below.

i) Paragraph 5.1(i): Add “There was a drop over three years which needed exploring, and there was no sense of what ‘good’ looked like – what was the international benchmark?”;

ii) Paragraph 5.1 (ii): “The 43% going straight into industry or public sector was an impressive figure, but it would be good to know what the data was for destinations post-RA positions”;

iii) Add to paragraph 5.1;

“it was observed that the data on studentships were currently affected by the remaining project students;”

“the number of companies in the data was in part a reflection of longer grants, so that companies stayed in the system longer. However, the rise in the number of new companies was a real effect – for example, as a result of the encouragement of collaboration within the challenge programmes;”

iv) Paragraph 5.2, amended to read: “Members said that the indicators should be used with care as they did not necessarily capture intangibles such as the emergence of new research stars, or whether those stars were staying in the UK. There was nonetheless interesting data in the KPI set which was worth capturing and monitoring, albeit with a commentary where necessary to explain trends. Council agreed, however, that each KPI should have a target and/or an upper and lower range associated with it, in order to show, for example, when an indicator was entering a critical area. Also, in each case it should be clear what the lever was to make adjustments. Members also asked that documentation should have hyperlinks to previous papers;”

v) Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

7.2 Subject to the above changes, the minutes were accepted as a true record.
8. ACTIONS AND MATTERS ARISING

8.1 All actions were either completed, managed in business elsewhere on the current or future agendas, or were on-going, except as recorded below.

8.2 (Minute 2.1) Mr Emecz said that the comments from members at the previous meeting had been captured and fed back to Council. The Communications team would provide Council with supporting facts and figures. He encouraged members to continue using the message concepts in their own language.

8.3 (Minute 3.1) Dr Thompson outlined a number of routes now being worked up for members to have increased direct contact with researchers: the Open Forum (item 8 above), the pilot study for the evaluation of Shaping Capability (EPSRC 33-13), and a more coordinated approach to university visits. In addition, members would have an opportunity for dialogue with EPSRC theme leads on their progress reports (EPSRC 31-13); the secretariat would be arranging WebEx teleconferences for this.

8.4 (Minute 6.2iv) Dr Thompson reported on progress in updating the reviewer form, noting the wider context of RC harmonisation which was driving a review of both the application and reviewer forms. All RCs were conscious of the need to avoid system differences, so there was an intent to reach a conclusion to tie in with the completion of the Triennial Review. The Chairman emphasised the need to maintain pressure on this in order to deliver by the October Council meeting.

9. UPDATE FROM THE EXECUTIVE

9.1 Professor Delpy reported to Council a number of topics not covered elsewhere on the agenda, as below:

i) Professor Delpy elaborated on the Spending Review settlement. In particular he said that the flat cash settlement for resource in 2014/15 represented a continuous reduction, and that there was considerable uncertainty still about the settlement, especially the content of the £1.1bn capital. The additional £185M for TSB and £22M for capital was to support, amongst other items, additional support for SMEs, extension of the Biomedical Catalyst, four new Innovation Platforms, and the expansion of Catapult Centres.

ii) Professor Delpy also flagged to Council the reduced departmental administration allocation, and that this was to be passed on to partner organisations. He observed that EPSRC was currently spending only 1.7% on admin. Mr Clayton said
that the details were yet to be defined. Council members asked for an opportunity to consider the impact and options once the figures were known. Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

iii) The first meeting of the independent review of Peer Review was scheduled for 11 July, and the panel would carry out the bulk of its work early in August, and report to Council in October. Members asked how the panel had been identified. Professor Delpy said that a sub-set of Council had proposed and agreed the names.

9.2 Council **noted** the Executive report.

9.3 Mr Boyer reported on progress with the review of Council’s own effectiveness. Since the last Council meeting, Technopolis had been selected as the review provider, and they had started work. All members had been approached to complete a questionnaire and the Technopolis team would follow up to conduct a more in-depth interview. The review was on track and on budget.

9.4 Mr Clayton reported on the Triennial Review: the Challenge Panel stage had been completed, and the BIS Board had subsequently approved the report which would now go through ministers to the Cabinet Office. There was a question mark as to whether stage one would be completed before recess, but stage two, covering governance, would nonetheless now commence.

10. **ANNUAL REPORT FROM RESOURCE AUDIT COMMITTEE**

10.1 Professor Sambles introduced the report. He focused on the new corporate risks that had been added to the register during the year. Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000. Professor Sambles commended the Executive staff on managing the workload associated with the CDT call. Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

10.2 Professor Sambles also highlighted the substantial assurance given to EPSRC’s internal controls. Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

10.3 Council **noted** the RAC annual report.
11. OPERATIONS REPORT  

11.1 Dr Wall introduced the paper, which covered both financial and staffing matters.

11.2 **2012/13 Outturn and accounts:** The Minister had signed off the accounts which would be laid before Parliament before the recess.

11.3 **Liabilities:** Dr Wall referred Council to the table at paragraph 15 of the paper which set out the current and projected liabilities arising from commitments made. She noted that these figures did not include the capital commitments arising from autonomous systems and robotics, energy storage or advanced materials capital calls in progress.

11.4 **Staffing:** Minute not included as contains exempt material, at the time of publication, under the terms of the Freedom of Information Act 2000.

11.5 Professor Sambles encouraged other members to visit the office and meet with staff.

11.6 Council **noted** the Operational Report.

12. INFORMATION PAPERS

12.1 The following papers were for information only:

- Theme Reports – Physical Sciences, Engineering, Healthcare Technologies  
  EPSRC 31-13
- Fusion  
  EPSRC 32-13
- Evaluating Shaping Capability  
  EPSRC 33-13
- Communications Update  
  EPSRC 34-13
- Corporate Risk Register  
  EPSRC 35-13
- Council Forward Business  
  EPSRC 36-13

12.2 Dr Wall said that the Fusion paper was intended to flag a number of issues that Council would need to consider at future meetings. Three Council members had previously agreed to help advice the Executive on these issues. Dr Wall asked members to flag up any related aspects they felt should be covered.
12.3 Members welcomed the news stories flagged in EPSRC 34-13, but asked for more examples of basic research which did not necessarily have industrial presence.

12.4 Members noted that the forward agendas were looking full, and would need supplementing with consideration of the impact of REF as well as planning for the next SR. There was a suggestion to invite questions ahead of meetings to help focus the business. Members asked the secretary to recirculate the dates for 2014.

12.5 Council noted the information papers.

13. NEXT & FUTURE MEETINGS

13.1 The next meeting would be on October 15 & 16 at the Royal Academy of Engineering, London.

13.2 Forward dates are: 2013: 2/3 December; 2014: 4 March, 20/21 May, 8 July, 7/8 October, 9/10 December.