

# STFC 2012 PARTICLE PHYSICS REVIEW - EXPERIMENTS AND EXPERIMENTAL CONSOLIDATED GRANTS

## Guidelines for Applicants

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## Introduction and Timetable

This document gives information about, and guidelines for, the 2012 Particle Physics Grants Panel (PPGP) reviews of experiments and consolidated grants. While the document sets out specific guidance concerning this grants round, it should be read in conjunction with the STFC's [fEC Grants Handbook](#). Part A gives guidance on the consolidated grant review, including the assessment criteria and how applications should be structured. Part B gives guidance on the experiments review, including information on the experiments included in the review and the information that should be included in experiment submissions. There are some important changes to the process and documents required in the 2009 review.

The timetable for the review will be as follows:

Closing date for Experiment Submissions and Form X	14 February 2012
Closing date for Consolidated Grant Submissions	28 February 2012
Consolidated Grant refereeing process	March – April 2012
Experiment Review meeting	12-13 April 2012
Consolidated Grant Meetings	March - May
Consolidated Grant applicants to receive and respond to referee comments	May 2012
PPGP Consolidated Grant Review Meeting	11-13 June 2012
Outcome announced	September 2012

## Particle Physics Grants Panel

The panel's role is to:

- Assess and make recommendations to the STFC executive on research grant applications in particle physics.
- Take account (as appropriate) of the recommendations of external referees and the conclusions of specialist peer review panels. The latter may be convened by the executive to advise on consolidated grants, contiguous groups of research requests, or research requests which are judged (on the basis of cost or propriety) to warrant such separate, in-depth assessment.
- Advise the STFC's Science Board and the executive as required on all issues relating to research grants, including monitoring the level of funding allocated to grants.
- Carry out such other tasks associated with peer review as the executive might require.

The membership of the PPGP taking part in the 2012 review of experiments and experimental consolidated grants is:

Dr Joel Goldstein (Experiment Chair)  
Dr Anthony Affolder  
Dr Gary Barker  
Dr Alan Barr  
Dr Gavin Davies (Experiment Core member)  
Professor Simon Hands (Theory Chair)  
Dr Silvia Pascoli (Theory Core member)  
Dr Antonella De Santo  
Professor Rebecca Seviour  
Dr Maurits Van der Grinten  
Dr Nigel Watson  
Professor Matthew Wing

## Strategic Guidance

In assessing proposals PPGP will be mindful of the following guidance from Particle Physics, Astronomy and Nuclear Physics Science Committee (PPAN):

In making funding recommendations, grant panels should take account of the priority assigned by PPAN to projects together with any new information or developments. In discussing the balance of the current science programme, PPAN recognised the lack of breadth in the programme. In order to redress this, PPAN would like grants panels to consider the following, additional strategic advice when discussing grant funding.

For activities ranked below alpha 4 and/or currently not supported by STFC:

- Research proposals for exploitation should be considered in the same way as those ranked alpha 4 or 5, and may be funded if the quality of science proposed merits it.
- For new activities, the grants panels could consider funding a limited amount of staff effort where a very strong case was made.

For these activities, it is expected that only a few, excellent proposals would be funded and that funding such effort would not create any further, ongoing commitments. Grant panels should indicate where such funding has been recommended.

## Enquiries

Enquiries can be directed to the following staff at STFC:

- Mrs Jane Bennett: tel. 01793 442141, [jane.bennett@stfc.ac.uk](mailto:jane.bennett@stfc.ac.uk)
- Mrs Rachel Reynolds: tel. 01793 442097, [rachel.reynolds@stfc.ac.uk](mailto:rachel.reynolds@stfc.ac.uk)

and, for Je-S enquiries: [JeSHelp@rcuk.ac.uk](mailto:JeSHelp@rcuk.ac.uk)

fEC-related inquiries should in the first instance be directed to the Office staff as above. Consolidated Grant enquires may also be addressed to the Chairman of the Grants Panel (for this exercise Dr Joel Goldstein, email [joel.goldstein@bristol.ac.uk](mailto:joel.goldstein@bristol.ac.uk)).

# Part A: 2012 Review of Experimental Particle Physics Consolidated Grants – Guidelines for Applicants

## 1. Consolidated Grants

### 1.1 Consolidated Grants

The Rolling Grants, Standard Grants and Visiting Researcher grants in previous rounds have been replaced following STFC's Grant Mechanism Funding Review by Consolidated Grants.

1. Each university department (or equivalent sub-unit with the university) may submit one consolidated grant proposal per subject area every three years. Particle Physics Theory and Particle Physics Experiment are considered to be separate subject areas. This grants round will consider consolidated grant requests in the Particle Physics Experiment subject area.
2. Where more than one department/group at a university is involved in the same subject area they will be treated as a single institution for the purposes of consolidated grant submission. Each institution may submit only a single (non-consortium) consolidated grant proposal, but may additionally participate in one or more consortium bids.
3. Consolidated grants replace all other grant schemes for exploitation and theory, and should incorporate any applications for Visiting Researchers. There will be no Responsive RA rounds in future, although specific calls for proposals may be held where required.
4. Consolidated grants have three categories of staff: academics, core staff and non-core staff. Core posts are those key staff identified by the grants panel as being crucial for long term support of research activities.
5. Non-core posts will normally be awarded for a maximum of three years, but with the flexibility to spend the money over four (i.e. to delay the start date of the post). Core posts will be awarded for up to four years on the first grant and then for up to three years on subsequent grants, starting in the second year of the grant. Please see Section 4 for information on the definition of core and non-core posts.
6. Academic time will be awarded to match the programme of work funded. If a grant has core staff all academic time will be awarded for up to four years, otherwise it will be awarded for up to three years.
7. Consolidated grants will be awarded as either three year grants (for those grants without core staff posts) or four year grants (for those grants with core staff posts).

Where four year grants are awarded, the fourth year will overlap with the first year of the subsequent grant.

8. Non-staff costs will be awarded in line with the staff posts awarded, e.g. travel costs for core staff will be awarded for up to four years while travel costs for non-core staff will be awarded for up to three years.
9. There is no change to the types of funding that can be applied for under consolidated grants. Applicants may request any of the following cost types: investigators, research/technical staff, support staff, project studentships, visiting researchers, travel, consumables, equipment etc. A proposal could ask for all of these cost types, or, for example, just travel, depending on what is required.
10. Groups from different institutions working collaboratively in the same well-defined research area may apply for a consolidated research grant as a consortium. This is intended to allow members of such consortia the opportunity to bid for shared resources, particularly core expertise, that they might not otherwise be able to secure on their own, perhaps due to the size and/or scope of their activity. In practise, this would require the submission of a single case for support, with either one Je-S form per institution or one Je-S form on behalf of the consortium.
11. An individual would only be supported on a maximum of one consolidated grant. Therefore individuals in groups that apply as a consortium would be excluded from also applying as part of their individual institution's application.
12. If you are considering submitting a consortium grant, you are required to discuss this with the STFC particle physics programme manager prior to submission to agree whether a consortium grant application would be appropriate. In some instances, a brief written summary of the proposed consortium may be requested as part of this process.
13. Subsequent grant reviews will be timed to allow funding decisions to be made sufficiently in advance of the next start date.

## 1.2 New Applicants Scheme

Newly appointed academic members of staff (lecturers or lecturer equivalent fellows) who have joined a department between grant reviews may exceptionally apply separately for support. This will potentially allow them to begin to establish a research programme on appointment. If grant funding is agreed, funding is likely to be awarded as an addition to the department's / consortium's existing consolidated grant.

It should be noted that the number of awards is likely to be very low and funding will be extremely competitive. Further guidance can be found on the [fEC Research Grants Handbook](#) on the STFC website.

## 2. Review Process

### 2.1 Review Period and Closing Date

The consolidated grants for this round will have start dates of 1 October 2012 and end dates of 30 September 2015 (no core staff) or 30 September 2016 (with core staff). The closing date for applications is **28 February 2012**, apart from Form X which must be submitted by **14 February 2012**.

### 2.2 Assessors

Two or three members of the PPGP will be allocated as “assessors” for each consolidated grant proposal. As in previous rounds, assessors will act to clarify any issues which are unclear in the grant proposal documentation.

### 2.3 Meetings with Groups

Assessors will visit each applicant group to clarify any issues arising from proposals. The agenda for the meetings will be set by the assessors but will focus on a discussion with the PI and relevant project leaders. The sole purpose of these meetings is fact-finding to help the assessors to fully understand the grant proposal and is not an opportunity to re-make the science case. There will not be any presentations.

### 2.4 Referees

The reports on projects will be sent to referees of international standing for assessment. In view of the number of projects per group, rather than nominate a single referee on the proposal form, applicants are invited to send referee nominations for each project to [pp@stfc.ac.uk](mailto:pp@stfc.ac.uk). The PPGP will take the nominations into consideration when assigning referees, but it is not guaranteed that the nominated referees will be used.

### 2.5 Cost Revision following Review

If, as a result of the PPGP review of the grants, a reduction is recommended in resources on a proposal, STFC is required to return the application to the Research Organisation to re-calculate estates and indirect costs. There will be a 10 working day period in which to do this. The request will be made to the administrative group by whom the proposal was submitted. If the amended submission is not received within the 10 working day timescale, STFC will amend the award on a pro-rata basis in line with the reduction or increase in research staff effort awarded.

### 2.6 Wakeham Review Efficiency 2011-15: Ensuring Excellence with Impact

Applicants are advised to check the latest [RCUK guidance](#) available in response to the Wakeham report and recommendations. This includes supplementary guidance on equipment, the ‘top-slice’ calculation and the changes to indirect cost grant submissions from 1 July 2011.

## **2.7 Cross-disciplinary or Cross-Council Proposals**

For advice on cross-disciplinary or cross-Council proposals please see the [Research Grants Handbook](#) sections 4.1.3 and 4.1.4.

## 3. Assessment

### 3.1 Assessment Criteria

The PPGP will assess all proposals in accordance with the assessment procedures set out in STFC fEC Research Grants Handbook. The criteria used to assess proposals fit into four categories as listed below:

**Category 1.** Absolute pre-requisite, without which an application will not be recommended for funding:

- Scientific excellence: specific objectives of the project
- International competitiveness
- Strategic value within the STFC programme

**Category 2.** Supporting evidence which increases the confidence in a successful outcome. Where any of these are not met the resulting risk and any proposed remedial or mitigation action will be identified as part of the peer review process. Where any criteria are not met any recommendation for funding would be subjected to close scrutiny by the Council. If approved for funding, the Council is likely to make an award contingent on remedial action to address the concerns highlighted before funds are committed:

- Productivity of applicants
- Productivity of grant supported staff (where relevant)
- Quality of leadership/management
- Suitability of Institution/Group

**Category 3.** Important additional criteria, the opportunities and plans for which must be addressed in the application:

- Potential for Knowledge Exchange (and industrial engagement) and Economic Impact (EI)
- Quality of outreach plan

This category will be assessed via the information provided in the Pathways to Impact document (see section 6.6).

**Category 4. Sustainability:**

- Ensuring that the health and critical mass in key instrument/construction groups is maintained

### 3.2 Application Grades

All applications will be graded by PPGP as Fundable, Unfundable or Reject as follows:

**Fundable:** The proposed research is of the highest scientific merit. It is novel and/or timely and has such potential that it will, or is likely to, make a significant contribution to world particle physics or is at the forefront of UK particle physics and is internationally competitive. The case for support demonstrates that the proposed research is feasible, well planned and cost effective.

**Unfundable:** The science case is not compelling. The proposed research lacks originality and is not critical to any new understanding of the subject. It is either too removed from STFC's strategic plan to be funded or is not scientifically competitive.

**Reject:** The case for support cannot be accepted for one or more of the following reasons:

- The science case is technically flawed
- The case for resources (e.g. PDRA or other costs) has not been made
- The proposal is premature.

## 4. Classification of Posts

Consolidated grants have three categories of staff: academics, core staff and non-core staff.

New posts may be requested in either the core or responsive-mode categories, or a change in categorisation may be requested, so a post assigned as responsive-mode in the 2009 round may now be requested as part of the core group and vice versa.

### 4.1 Definition of Core Posts

'Core posts' are defined as underpinning research capability that is, to a great extent, not contingent on the specific details of the group's future programme of work. It is not expected that RA posts would be defined as core posts. Ultimately, the grants panels will make judgements on a case-by-case basis, but the following may be used as a guide:

- Expertise in the areas of experimental development and construction
- Software/computing support
- Expertise in the maintenance and operation of experiments
- Engineering and technical expertise
- Senior research posts (typically, these post holders are expected to have at least 5 years postdoctoral research experience).

For experimental particle physics groups these roles correspond broadly to the GSC categories AP, Pr, E and T, for staff in established posts. The senior research posts may fall into GSC category Ph; these and PP category staff would only be identified as core staff **if their role is essential to the scientific success of the group and they possess critical expertise with skills that would be difficult to replace.** Pool staff and general secretarial or generic computing support staff would not be considered to be core staff.

It is not expected that core posts would represent a high proportion of the non-academic total grant costs.

### 4.2 Case for the Core Group

Each group must make a case as part of their proposal for the overall size of their proposed core group. This should stress the areas of expertise of the group, building on the work of individual post-holders over the last two years. It should also give a plan of work for the next four years, and explain how this maps on to the proposed core group (see 6.3.1).

For CERN based experiments the case for the core group should state where core posts are critical to Category A or Category B M&O commitments.

It should not be assumed that all posts proposed as part of the core group in the application are guaranteed to be awarded. Requests may be made for new posts which would fall into the core category.

Posts requested as part of the core group may be awarded as responsive-mode posts by the panel, if it is felt that the scientific case does not require the long-term continuity intended for core posts, but that the case is strong enough to justify funding.

### 4.3 Responsive-Mode Posts

Further posts, outside the core group, will largely be associated with experimental physics exploitation, including elements of operating support for running experiments. They may also be associated with early work on R&D projects and blue-skies R&D. They will be allocated in response to strong physics cases, and are referred to here as “**responsive-mode**” **consolidated grant posts**. A competitive allocation procedure will be used for them, comparing cases for continuation of existing, and for new posts. The experimental support responsibilities will be taken into account in the allocation of the responsive-mode posts. Such experimental support responsibilities must be made clear in the case for support for these posts.

Responsive-mode posts will be awarded for a maximum of three years but with the flexibility to spend the money over four (i.e. to delay the start date of the post).

### 4.4 Ring-Fenced Posts

Consolidated grant posts approved as part of capital construction projects are contained within a hard project ring-fence. STFC will notify grant-holders of the ring-fenced amount remaining for the grant-supported staff in their group for each such construction project over the balance of the ring fenced period from 1 October 2012. This is the allocated amount that the group can spend on the ring-fenced staff salaries over the period; however, the profile can change between years, with the agreement of the UK spokesperson, within the overall financial envelope.

The funds for the ring-fenced staff will be awarded to the group through their consolidated grant using the same inflation index as for non-ring-fenced staff. The actual funds awarded for these staff may therefore be less than the notified ring-fenced envelope.

As in previous rounds, no case for support needs to be made for posts, or parts of posts, which are ring-fenced, for the period when they are ring-fenced. However, the posts should be included in the group’s Form X.

The current ring-fenced projects are:

- ATLAS Upgrade (ring fence end date 31/3/13)

- CMS Upgrade
- MICE phase 2 including exploitation
- SuperNEMO (ring fence end date 31/10/12)

In practice, all currently approved ring-fences which extend into the review period also terminate within the period, and so cases must be made for ring-fenced posts after the currently foreseen termination of the ring-fence. This case may include, but separately identify, the work that would be carried out with a renewed ring-fence, if appropriate. If exploitation activities need to begin before the completion of the construction phase, bids for such posts starting before the end date for the ring fence may be made. A justification must also be made for the inclusion of ring-fenced posts into the core group, if that is proposed.

#### **4.5 Academics with Dual Theory/Experiment Roles**

PPGP is prepared to use the following 'fast-track' procedure to avoid academics having to apply to both PPGP(T) and PPGP(E). Academics spending up to one third of their time in the other discipline (e.g. a theorist working as a full member of an experimental collaboration or an experimenter with specific duties/obligations to a theoretical collaboration) should apply for all of their time to the panel relevant to the majority of their work. This guidance does not apply to any fraction of an RA's time spent as a full member of an experimental collaboration, which should always be applied for from the PPGP(E).

## 5. Requesting Resources

This section should be read in addition to the guidance provided in the [STFC fEC Research Grants Handbook](#).

### 5.1 Full Economic Costs

All research proposals must be submitted under full economic costing (fEC) principles. Those involved in the preparation and submission of a proposal must familiarise themselves with the terms and conditions for fEC grants and the relevant Council's regulations.

### 5.2 Resource Requests – Duration

The periods for which resources may be requested are as follows:

Core staff	Up to four years
Non-core staff	Up to three years
Academic staff	Up to four years for grants with core staff, otherwise three years
Non-staff costs	In line with the duration of staff posts, e.g. travel for non-core posts should only be requested for up to 3 years
Students	A minimum of three years and a maximum of four years
Other DA costs (pool staff, research facilities)	Up to 3 years

### 5.3 Travel and Subsistence

In line with fEC principles, travel is no longer formula-funded by the PPGP. Applicants should request the full estimated cost of group travel, in line with the rules of their institution, including a justification of the request. It is recognised that Research Organisations may apply a rate per FTE or post for funds such as conference travel. Whilst this is fully acceptable, it must be clear from the case what is included within the rate, although it is not necessary to itemise every single visit. Support for journeys within the UK and overseas should be sought only where these are not directly connected with approved experiments which are funded through the experiments funding line. Funds may be requested to make visits to discuss new projects if these cannot be combined with other journeys. The PPGP also expects that groups should seek travel funds from sources other than their institutions.

## 5.4 Equipment and Other Directly Incurred Costs

In response to the Wakeham Report, RCUK has made changes in how equipment is requested on Research Council grants. The following summarises the changes that came into effect on 1 May 2011. Further guidance is available on the [RCUK website](#).

### **Individual items of minor research equipment from £3k to £10k (inclusive of VAT):**

- Single capital items of equipment costing less than £10,000 should be included in Other Directly Incurred costs. If VAT and/or Import Duty do not apply, a value of zero should be entered in these fields.
- It is recognised that Research Organisations may apply a rate per FTE or post for consumables such as laptops/PCs. Whilst this is fully acceptable, it must be clear from the case what is included within the rate.

### **Items of equipment costing between £10k and the OJEU threshold value (net of VAT £101,323, inclusive of VAT £121,588):**

- The research organisation will need to provide extra justification for these items, providing evidence of an evaluation of the use of existing capital assets.
- ROs will be expected to make a contribution towards the cost of the equipment. Given that capital provision across councils has been reduced by about 50%, contributions of this order will be expected. The contribution requested from STFC should be the amount entered on the JeS form.

### **Items of equipment above the OJEU threshold value (net of VAT £101,323, inclusive of VAT £121,588):**

- All requests for single capital items of equipment above the OJEU threshold value should be accompanied by a 2 page business case outlining the strategic need for the equipment. RCUK will decide the strategic location for these items and will potentially fund them at 100%.
- ROs planning to request items above the OJEU threshold should contact STFC to discuss the business case well in advance of submission.
- For all items of equipment requested with a value over the OJEU threshold value, three equipment quotations must be provided.

### **Instrument Development:**

- The above rules, apart from the increase in the threshold for equipment from £3k to £10k, will not apply to requests for equipment to be used for the purpose of instrument development.
- Instrument development covers a proposal (or group of proposals) forming a single project predominantly focused on constructing a new instrument or detector to enable or improve research capability. Equipment in such cases will include detector components being manufactured or assembled. However, other equipment requested in the proposal, but not uniquely related to the detector

itself (e.g. lab equipment with potential for wider use) will still be subject to the new rules.

- Where a proposal requests both equipment for instrument development and other equipment, the normal rules would apply to the non-instrument development equipment.
- Applicants should put 'instrument development' in brackets after each relevant item in the Description field of the Equipment section of the Je-S form

**General:**

- These thresholds will apply to individually capitalisable assets, rather than by accumulating the value of a number of assets, except where individual assets are clearly intended to be used together as a combined asset.
- The previous situation, where equipment valued up to £50k was funded at 80%, with any equipment balance above £50k funded at 100%, no longer applies.
- For all equipment costing more than £25k (including VAT), professionally qualified procurement staff at the RO must be consulted at the beginning of the procurement process and must approve the order before it is placed with the supplier. Additional documentary evidence for the estimated cost should be included.

## 5.5 Project Studentships

It is possible to apply for project PhD studentships as part of grant proposals. Project studentships can be for a minimum of three and a maximum of four years duration and must be closely associated with the main programme of work to be undertaken as part of the grant proposal. The case for support should explain how the studentship project will be integrated into the broader aims of the grant and how this integration will be of benefit to the training of the research student. The PPGP will assess the scientific quality of the project, consider whether the project offers suitable training in research methods and techniques, comment on the broader training and consider if the studentship adds value overall to the research proposal. All potential costs should be included in the proposal. Studentship maintenance and tuition fees fall outside the fEC arrangements, so, if awarded, will be paid at 100% of cost; other support costs will be paid at 80%.

## 5.6 Long Term Attachment (LTA)

Costs can be requested for health cover/ insurance for an individual's family whilst accompanying them on LTA, but groups should check that this complies with the policy of their university, as university policy varies as to whether these can be claimed as legitimate costs. These costs would be paid by STFC at 80% of fEC

There should not be a reduction on the JeS form to estates and infrastructure technician costs to take account of individuals who will be on LTA during the grant. Applicants should provide a list in the case for support of individuals who are expected to be on LTA during the grant, stating for each individual the period when they will be on LTA.

The estates and infrastructures costs will then be reduced as appropriate at the ten day turnaround process.

### **5.7 Outreach**

Applicants may request funds for public outreach activities on consolidated grants, subject to a well justified case. A description of the proposed activities and a justification of the resources requested should be included as a separate section within Appendix 2 of the proposal document. (This is required in addition to the Pathways to Impact document so that the request can be peer-reviewed.) This section should be a maximum of one page. As general support for outreach activities can be sought through the Science in Society funding schemes, the case should justify why the resources requested are specific to the proposal. Any outreach requests will be tensioned against research activity. For more guidance please see the 'Public Engagement' section at <http://www.stfc.ac.uk/About+STFC/5828.aspx>.

### **5.8 Justification of Resources**

All costs associated with the research proposal must be justified, with the exception of estates costs, indirect costs, infrastructure technician costs and the unit cost of TRAC-determined elements such as investigator salary costs or research facility charge-out costs; although the amount of resource required does need to be justified.

An explanation for all costs requested on the Je-S form must be given in the Case for Support (see section 6.4). Each directly incurred post must be given a name or, for unnamed posts, a unique number (eg RA1, RA2 etc.). This name or number must be used in the Case for Support to enable cross-referencing between the Je-S form and Case for Support.

### **5.9 Costings**

All costings should be at current prices, inclusive of VAT and other taxes where applicable, with no allowance for inflation. Any allowance for inflation that has been included in the full economic costing of the proposal by the Research Organisation must be excluded. The Research Councils will include an allowance for inflation if a grant is awarded.

## 6. Applying for a Consolidated Grant

### 6.1 Submitting Applications through the Je-S System

All proposals should be submitted online using the Je-S login screen at: <https://je-s.rcuk.ac.uk/eforms/secure/Login.asp>. This screen also has links to tutorials and system help. Applicants should use the Je-S form for standard grants, and should apply for a grant of four years duration.

Please note: it is the responsibility of the PI to ensure that their institution's Administration Department submits the proposal before the submission deadline. Applicants can view the status of their proposal online by logging into the Je-S system – STFC Office staff cannot do this until the proposal is finally submitted by the institution's Administration Department. Proposals submitted after the closing date may not be considered.

In the event of any query relating to the Je-S system, please email the helpdesk at [JeSHelp@rcuk.ac.uk](mailto:JeSHelp@rcuk.ac.uk) or telephone 01793 444 164. There is also a Je-S help web site, which can be found by clicking 'System help' on the login screen.

### 6.2 Additional Documents Required

In addition to the online application form which must be submitted through Je-S, the following documents are required:

- Appendix 1, Report on research in the previous three years and plans for the future programme
- Appendix 2, Funds requested (Case for Support)
- Appendix 3, Publications
- Pathways to Impact document
- Form X, Staff details and programme/project participation

The appendices and Pathways to Impact document should be uploaded as attachments to the Je-S proposal. The Form X spreadsheet should be emailed to email address [pp@stfc.ac.uk](mailto:pp@stfc.ac.uk).

All appendices must be in 12-point type with a 2cm margin.

### 6.3 Appendix 1 – Report on Research in the Current Grant and Proposed Programme

This should provide a report on the scientific and technical work of the group since 1 October 2009, and discuss the future programme. The report should include the sections listed below. The page limit for Appendix 1 is 15 pages plus 2 pages per

academic (to be counted an academic must contribute at least 10% FTE to the consolidated grant for at least one year of the proposal; this can include academics where no salary is requested). Groups are reminded that, when describing previous work, a concise account is sufficient.

### **6.3.1 Summary of group's activities and strategy**

The report should begin with a summary of the group's activities and the strategy for future experimental involvement. **This must include a case justifying the overall size and composition of the proposed core group (see 4.2)**, referring to individual contributions, and how the plan of work for the next four years maps onto the proposed core group. Reference should be made to any plans to submit proposals to the PPRP, indicating possible time-scales and any implications for funding through the consolidated programme, e.g. additional staff posts.

### **6.3.2 Project reports**

For each project (i.e. for each experiment or R&D project):

(a) a report on the scientific and technical work carried out by group members since 1 October 2009. At the end of this section each project should list the most important publications of the project in the last three years to which the members of the group have directly contributed.

(b) a proposed plan describing the group's future experimental programme and participation in specific projects/experiments for the period from Oct 2012 to Sept 2015/2016 (depending on the proposed end date of the grant).

As in the past, support at a low level for underpinning research and development activity may be sought through the PPGP. This may include generic R&D (i.e. not project-specific) and feasibility or conceptual design studies not related to a currently funded or identified project. Such research could be of relevance to a range of applications, leading to the development of new project-specific instrumentation in the future. Applications for larger scale Research and Development relevant to projects already within the Council's Science Roadmap or in relation to a specific experiment should follow the [PPRP/PRD funding route](#).

To avoid repetition of basic information, it is requested that the future programme for a project follows immediately after the report on current work on that project but with the past and future programmes clearly separated. It is not necessary to include a table of group members as these will be taken from Form X. For all projects, applicants should explain any specialist technical terms used in their reports. References to individuals in the group's reports should be highlighted in bold face.

### **6.3.3 Other information**

The following information should also be provided:

1) An explanation of any expenditure which has resulted in a variation of 20% or more against the funds awarded against each heading in the 2009/10 rolling grant announcement.

2) Non-PPGP and non-STFC support: The Grants Panel seeks information on other support outside the consolidated grant over the review period. Examples include Responsive RAs, IPS, Fellowships etc. The Panel is only interested in support which has been obtained for equipment, consumables, travel and staff posts directly involved in the programme; it is not necessary to detail any other items.

3) Concordat to Support the Career Development of Researchers: The applicant is required to report on how the concordat is being implemented within the context of the group.

## **6.4 Appendix 2 – Funds Requested (Case for Support)**

### **6.4.1 Scientific and technical posts**

A case relating to the proposed programme and Form X must be made for the continuation of each current staff post, or fraction of a post, that lies outside a ring-fence, and for initiation of new posts. In line with the principles of FEC, cases must be included also for academic staff posts for which some salary funding is sought.

A scientific case for each post (including Project Studentships) should be made, with a maximum of half a page allowed for each post. If appropriate, the case should indicate why the post should be considered “core”, and a proposed plan of work identified for the next four years. Each case should begin with a one line summary of experimental responsibilities (if relevant). It is acceptable that in years 3 and beyond, non-ring-fenced effort can be attributed up to 50% FTE on non-specific projects. The case for investigator time should be justified in terms of the future programme, not past productivity.

Posts should be justified in the following order: a) academic posts, b) core posts, c) responsive-mode posts. Within each category posts should be listed alphabetically by surname, or post title for unnamed posts. The posts on Form X must be listed in the same order. The naming format used must be consistent in both the Case for Support and Form X. All directly incurred posts should have the same name/number as given on the Je-S form so that it is clear how each case for support relates to a post listed on the Je-S form (see 5.8 – Justification of Resources).

Academics should bid for the amount of their time they expect to spend on research, taking into account other commitments (e.g. teaching, other funded research activity). If a proposal is only requesting a particular investigator’s time for part of the grant duration (eg if an academic has fellowship funding for the first two years of the grant and so only seeks funding for the last three years), this needs to be made clear in the text as the Je-S form does not have the facility to enter this information. Similarly if an

academic is requesting variable levels of FTE support during the grant this also needs to be made clear, with the different amounts of FTE and exact start and end dates of the changes specified. If no salary costs are requested for a particular investigator but estates and indirect costs are requested for that investigator, again this needs to be made clear in the text as it will not be apparent from the Je-S form.

Bids for continuation of existing posts, and for additional staff support, will be assessed on their merits by the PPGP. The overall group size and the number of academics in the group are among the factors that the PPGP may take into account in their deliberations.

#### **6.4.2 Support posts**

A case should be made for the secretarial/administrative and computer support requested. This case should be a maximum of one page long. Where secretarial support or computer support is requested under the 'Other Directly Allocated' heading, the following information should be provided for each post: type (e.g. administrative support or computing support), FTE, duration and total cost. The cases for support posts should be in alphabetical order by surname, or post title for unnamed posts. Support posts should be included on Form X below the scientific and technical posts. The order and format of names should be consistent in both the Case for Support and Form X.

#### **6.4.3 Non-staff costs**

A case, maximum two pages, should be made for travel and subsistence, outreach resources and consumables (including items of equipment under £10k). See sections 5.3 (travel), 5.4 (equipment) and 5.7 (outreach) for more information.

For all items of equipment costing between £10k (inclusive of VAT) and the OJEU threshold (£121,588 inclusive of VAT), but excluding that to be used for instrument development, the Case for Support, maximum half a page per item, should:

- Confirm that the piece of equipment is not already available for use within the host institution or at any other accessible location
- Provide evidence that all other reasonable options have been considered
- Explain, if the equipment requested will replace existing equipment, what will happen to the latter
- Set out the full cost of the equipment with an indication of the ROs contribution towards this full cost.

The technical case for items of equipment should be related to the programme proposals. Applicants should indicate in the Case for Support which items of equipment are to be used for instrument development – see Section 5.4.

A business case is required for all items above the OJEU threshold. This should be discussed with the office well in advance of submission of the proposal.

#### 6.4.4 Research facilities

A case should be made for resources requested for research facilities such as workshops. The case, maximum 2 pages per facility, should justify the costs requested and should be related to the programme proposals.

### 6.5 Appendix 3 – Publications

A table of the group's publications accepted for publication or published from 1 January 2009 to 31 December 2011 should be provided in the following format:

Investigator	Number of refereed publications	Number of lead researcher refereed publications	Number of technical reports	Number of first author technical reports	Number of conference proceedings
A. N. Other1					
A. N. Other2 <sup>1</sup>					

1. Note: A.N. Other2 was on maternity leave from June-Dec 2010.

'Investigator' includes Research Assistants as well as academics. The second column, 'Number of lead researcher refereed publications' should be the subset of publications from the first column in which the investigator has led the research. In the case where there is a justifiable career break such as a period of maternity leave, or extenuating circumstances, a footnote should be added as shown above.

### 6.6 Pathways to Impact

A Pathways to Impact document is required for all new grant applications and should be uploaded to the Je-S proposal as a separate attachment. The Pathways to Impact document is an opportunity to describe how the potential impacts of the research, including knowledge exchange and outreach, will be realised. For more information on completing the document, see [section 5.8](#) of the fEC Research Grants Handbook and the STFC [FAQ webpage](#).

This document will be assessed by STFC staff from relevant departments rather than the PPGP and therefore should ideally be capable of being assessed on a stand-alone basis.

### 6.7 Form X

A Form X spreadsheet giving details of staff posts and experimental participation must be provided. It should be sent to the following email address: [pp@stfc.ac.uk](mailto:pp@stfc.ac.uk) by **14 February 2012**.

Form X is intended to give the PPGP an indication of how the focus of effort for each staff post has changed since the previous review and how it will change through the period of

the grant. To enable monitoring of the ring-fenced construction projects, Form X must be completed by financial year (i.e. from April to March).

All group staff should be included on Form X, including staff that have not been or will not be funded by the rolling/consolidated grant. This is to allow a complete picture of the effort for each experiment. Staff with some request for consolidated grant funding in this round, whether new or existing posts, should be listed above those where there is no request for consolidated grant funding. Within these two categories staff should be listed in the order: academic posts, core posts, responsive-mode posts, support posts. Students should not be included. Within the sub-categories the posts should be listed in the same order as in Appendix 2, i.e. alphabetically by surname, or post title for unnamed posts. It is essential that the names used are consistent between the JeS form, Appendix 2 and Form X.

The blocks given on the spreadsheet should be copied to allow an entry for each staff member. There are drop-down lists for the GSC codes; to indicate if posts are core or responsive; the funding sources; and for the experiments. Each staff member should have a line for each of the experiments in which they are active, or have been involved and/or for each funding source.

The way in which the RG reductions resulting from the re-prioritisation exercise in 2009 were applied means that most posts awarded have only been part funded. In order to simplify the entry of this effort it is recommended that all effort in the 'current support' columns is recorded as the actual percentage effort used on each experiment by funding source (i.e. RG/CG, Other STFC, Other). The reductions applied in the rolling grant award or the re-prioritisation can therefore be ignored and there is no need to use the 'Other' funding source as a balancing line. The 'Other' funding source should be used for non-STFC funding such as EU grants, Royal Society Fellowships etc.

Where there has been a change in postholder, please put 'vice (name of previous postholder)' in the cell below the name of the new staff member. All investigators must be named on Form X.

Effort should be given as a percentage (rounded to nearest whole number). Where some columns cover only half a financial year, the maximum effort percentage noted in these cells should be 50%. For posts such as technicians that divide their time between a large number of experiments it is acceptable to roll up small amounts of effort (less than 5%) under the 'Other Projects' experiments category. The maximum effort that can be recorded for each staff member under 'Other Projects' is 10% and the case for the post in Appendix 2 must make clear what experiments have been included in that category.

Note the list of experiments on Form X reflects the Alpha Ranked List of particle physics projects from the PPAN Prioritisation Report 2009 plus previously funded projects and is only intended to capture an overall picture of experiments in which staff members are

active; inclusion of an experiment on the list does not mean it is approved for STFC funding.

The Form X provided must be returned completed and must respect the formatting and any formulae built in to the spreadsheet; it is not permissible to create your own Form X or amend any of the formatting on the Form X provided (apart from adding rows).

Form X requires the GSC codes which are given below in section 6.8.

## 6.8 GSC Post Category Codes

The Particle Physics Grants Panel uses GSC codes to categorise the experimental particle physics posts that it funds. They reflect the kind of activity undertaken by the post-holder. It is intended that the code should summarise the principal activity undertaken by the post-holder.

The PPGP issues the following further guidance for their use:

Ac - Academic Physicist: The post holder will normally be a physicist holding an indefinite term HEI position, or a Advanced or RS Fellowship. Typically they would be a member of one, or more, collaborative experimental teams.

AP - Applied Physicist: The post-holder will normally be a career physicist, holding a degree or PhD in Physics, specialising strongly in detector development and realisation. They will be a member of one or more experimental collaborations.

Ph - Physicist: They will normally be a more junior physicist on a fixed-term contract or Post-doctoral fellowship, and also typically be a member of a single experimental collaboration. Occasionally this may include senior research posts.

Pr - Programmer: The post-holder has more interest in computing per se, will be a professional programmer and could be a systems manager. They might well not be a member of any given collaboration but give wider computing assistance to experiments.

PP - Physicist-Programmer: The post-holder will typically spend a significant part of their time on computing matters (possibly system management, or directly related to an experiment) and the remainder on Experimental Physics. Typically, they would be a member of a collaborative team.

E - Engineer: The post-holder will have hardware (design, mechanical or electronic) interests, with considerable experience, and normally, but not necessarily, be a member of a collaborative experiment.

T - Technician: The post-holder will normally be less qualified and more inexperienced than an engineer. They may well not be a member of a specific experimental collaboration but give assistance, sometimes of a routine nature, to several experiments.

O - Other: This designation may be used to denote miscellaneous secretarial or administrative duties.

### **6.9 Attracting fEC Costs**

Applicants must apply the TRAC definition of researchers when considering which posts should have estates and indirect costs applied. The TRAC guidance states that, in general, a researcher under TRAC is anyone who will make a significant intellectual contribution to a research project. Typically such a person would be qualified to carry out independent or supervised research, might provide an academic lead for research, or could provide expert advice to a research project. A researcher has a thorough understanding of what they are doing, can interpret results and devise appropriate ways forward (rather than, for example, carrying out a set of routine operations under carefully supervised conditions). The justification for defining a person as a researcher should be clear from the Case for Support.

## **PART B: PPGP Guidelines for Bids for Experiment Maintenance and Operations (M&O), Travel and Technology Department Effort Requests**

### **7. Introduction**

Applications will only be accepted from running experiments with approved STFC support, as follows: ATLAS, CMS, LHCb, MINOS, nEDM, and T2K. If you wish to request support for experiment M&O, travel and TD effort for other experiments, please contact the STFC particle physics programme manager.

The application must be made to the PPGP by the UK spokesperson on behalf of the UK experimental collaboration, and the collaboration must define whether the awarded funds are to be administered by the collaborating Universities, or by STFC through RAL. The closing date for all written applications is **14 February 2012**.

The PPGP will review each of the experiments, taking into account strategic input from STFC, to decide priorities for the award of funds and posts in support of each experiment.

A “caretaker” will be allocated from the membership of the PPGP to each experiment. Their duty will be to clarify any issues or questions arising from the experimental submission.

All the above experiments will be required to make a presentation to the PPGP. These presentations will take place on 12 April 2012, venue to be confirmed. The experiment UK spokesperson (or a nominee) should be contactable by phone for the closed session of the PPGP, which will take place on 13 April 2012.

Provisional allocations for travel and M&O for FY 2012/13 were made by the PPGP in 2009. The present application covers the period April 2012 to March 2016 and is for:

- a. Confirmation or adjustment of the provisional allocation for FY 2012/13
- b. Firm allocation of funds for FY 2013/14
- c. Provisional allocation of funds for FY 2014/15
- d. Provisional allocation of funds for FY 2015/16

A corresponding allocation pattern is expected to take place in three years time to cover the period April 2016 to March 2020. There will be an interim light touch review in 2013.

## 8. Guidelines for Written Submissions

Each experiment should submit a written report. The body of the report should be divided into two parts, A and B. Part A should contain a report on work since 1 January 2010. Part B should contain information related to the future programme of the experiment. The report should stress the UK contributions to the experiment. The maximum total length of the report (in 12-point type, excluding appendices), is as follows:

- MINOS, nEDM: not more than 10 pages
- ATLAS, CMS, LHCb, T2K: not more than 15 pages

Part A of the report should contain:

- An overview of the status of the experiment and, where appropriate, the accelerator or facility used.
- A summary of data taken and the status of its processing.
- The status of the UK-funded items (hardware and software) and how well these items are performing.
- The status of the physics results with major UK involvement, and a description of the UK contributions.

Part B of the report should contain:

- An overview of the future programme of the experiment, emphasising physics goals and future UK analysis activities.
- The requirement for effort in the universities/STFC to fulfil detector operation and maintenance obligations. The level of such effort requested should be justified, as it will be reviewed and used as one input in consideration of bids for posts from the universities/STFC.
- The requirement for effort in the universities/STFC for other support, such as computing staff support dedicated to the experiment. The level of such effort requested should be justified, as it will be reviewed and used as one input in consideration of bids for posts from Universities/STFC.
- The requirement for PPD effort should be explained, but does not need to be justified in detail as it will not be awarded by the PPGP.
- A recap of the level of effort currently used on physics analysis, or physics analysis preparation, divided into academic, RG supported, and other staff.
- A justification of the bid for Common Fund, M&O (including Category B costs) and Travel, and STFC Technology Department effort. This bid should cover the period from April 2012 to March 2016. Bids for Category A costs for the LHC experiments are not required.

- Any likely requests to the PPRP in the next three years for new hardware or computing resources that might affect the bid. These requests would be assessed by the PPRP as normal.

In addition to the written report, the following appendices are required:

- i. A list of UK personnel in coordinating roles; a) within the UK, b) experiment wide since 1 January 2010.
- ii. A list of UK commitments to maintenance and operation (M&O) of the detector plus computing infrastructure over the period April 2012 to March 2016.
- iii. A short justification of the requested long-term-attachments. Note that the PPGP will allocate a total sum for travel, and the declaration of named individuals will not affect the flexibility of the Spokesperson to re-assign funds after the final award has been made.
- iv. The fully completed Excel workbook containing 10 worksheets, detailing the funds requested from April 2012 to March 2016 and, for non-ring-fenced periods of projects, the out-turn over the past 2 years. The individual workbooks will be supplied by Swindon Office to each UK experimental spokesperson.

The written report and completed Excel workbook should be sent to the Swindon Office Particle Physics group email: [pp@stfc.ac.uk](mailto:pp@stfc.ac.uk) as email attachments.