

VELA and CLARA: Evaluation Criteria for Beamtime Applications

Introduction

These notes are to be used in conjunction with the procedure for applying for time on the VELA and CLARA accelerators and the relevant application form. The panel review process is based on that used by STFC and other research councils such as EPSRC for the allocation of grant funding. For an example, see section 6.1 of the 'fEC Research Grants Handbook' (<https://stfc.ukri.org/research-grants-handbook/>) issued by STFC. Unlike grant proposals, the evaluation will be only a single stage process with panel members acting as both referees and moderators. The review procedure will briefly comprise of an assessment by each of the members of the review committee according to the outlined criteria and the assignment of an overall score for the proposal. These scores will be averaged for all the panel members and this average score used to produce an initial ranking list. This initial list will then be modified by comparing neighbouring proposals in an iterative fashion until a final list is agreed upon. Allocations will then be made by running down the list until all available beamtime has been exhausted.

Evaluation Criteria

The proposals will be evaluated against three general criteria which can then be further subdivided as follows.

- Scientific Excellence
 - Scientific and technical merit
 - International competitiveness
 - Strategic value
- Track Record
 - Suitability of the applicant's institution
 - Productivity of the investigators
 - Quality of leadership
- Impact
 - Scientific or technical impact
 - Industrial relevance

A mark will be assigned for each of the three general criteria. These marks will then be combined to give an overall mark for the proposal. The relative weighting of each of the general criteria can be decided by the reviewer, with the caveat that the highest weighting must always be given to the criteria of scientific excellence.

Initial evaluation of the proposals

Each member of the panel will carry out an initial evaluation of each proposal. The marks assigned to each general category will be using a six point scale.

1 - This proposal is fundamentally flawed

2 - This proposal does not meet all of the evaluation criteria

- 3 - This proposal meets all evaluation criteria but with clear weaknesses
- 4 - This is a good proposal that meets all evaluation criteria but with minor weaknesses
- 5 - This is a strong proposal that broadly meets all evaluation criteria
- 6 - This is a very strong proposal that fully meets all evaluation criteria

Once the individual scores for each evaluation area have been generated, the panel member then combines them into a single overall score for the proposal using whatever relative weighting between the areas s/he feels fit. However, as previously stated, the highest weighting must always be given to scientific excellence. For example, panel member A may score proposal 1 as follows; Scientific Excellence 5, Track Record 4, Impact 6 and choose to weight the proposals 70% SE, 10% TR and 20% I. This would give an overall score of $(5 \times 0.7) + (4 \times 0.1) + (6 \times 0.2) = 5.1$. Regardless of the weighting used, the final score should be rounded to one decimal place.

Producing the ranking list

At the panel meeting, all members will feedback their scores for each proposal. It is possible to accept scores from panel members who cannot be present on the day of the meeting. Members who are present will be asked to provide some brief verbal justification of the scores they have arrived at. The individual final scores will then be averaged for each proposal and the averaged score rounded to two decimal places. These averaged scores will then be used to produce the initial ranking list. Then, starting with the top two proposals they will be compared to each other to determine whether or not they should exchange place. This procedure is repeated running down the list until agreement is reached as to the final ranking order. Where there is disagreement in the relative positions of two proposals a simple vote will be held, with the panel chair having the deciding vote in the case of a tie. It is not expected that this pair-wise comparison step will lead to large changes in the positions of the proposals relative to the initial ranking list.

Allocation of time

Once the final ranking list has been prepared the panel will determine a cut-off mark below which no proposal will receive beamtime (likely to be 4 or above). The panel will then allocate time to each proposal running down the list until all the time is allocated. Each proposal will, in the first instance, receive the minimum time required to perform the experiment as outlined in the technical assessment. Any time left over after the allocation, perhaps resulting from the next highest ranked proposal requiring more time than is available, can then be allocated. It will be at the discretion of the panel whether to allocate this time to a proposal further down the list which requires less time (with the proviso that it must be above the cut-off), or to allocate additional time to proposals already awarded time, but where the minimum requirement is less than the total time requested.