

Mechanism for access to the VELA and CLARA accelerators for Science and Technology Research

Background:

The large scale infrastructure of VELA and CLARA has been developed and funded by STFC and Department for Business, Innovation and Skills (BIS, now known as BEIS) to (i) carry out accelerator science and technology research, in support of UK large scale facilities being developed by STFC, and (ii) to assist industrial and commercial development through the availability of accelerator infrastructure. It is however recognised that there may be significant interest in the use of such accelerators from academic and research communities beyond those engaged in the core remit described above. This policy provides a framework in which the VELA and CLARA accelerators can be made available to the widest possible research community, in a financially sustainable way, and which acknowledges the core aims behind the foundation investment from STFC and BEIS.

PREPARING APPLICATIONS

1. Researchers are strongly advised to discuss ideas and technical feasibility for beamtime access proposals with ASTeC accelerator staff prior to submission of an application.

Eligibility

2. The following user categories are identified as eligible to be principal investigators for beamtime applications:
 - **UK academics** – all UK academics, including those from Research Council institutes (including STFC staff) and those with Research Council senior or advanced research fellowships (or their equivalent) and Royal Society and Royal Academy of Engineering fellowships, will be eligible for access to VELA and CLARA. Academic access can include joint proposals with UK and international industrial/commercial users, but where it does the results must be made available for publication in open literature.
 - **International Users** – applications from non-UK academics (without prior contractual access arrangement) may be accepted at the discretion of the VELA and CLARA Exploitation Leader.
 - **International Agreements** – Recognised overseas research organisations will be eligible for access through contractual access agreements, for example transnational access agreements (e.g. ARIES).
 - **Commercial and Contractual Users** – access to the accelerator will be in accordance with the terms of the agreed contract with STFC.

Commercial users with agreed contractual access to the accelerator will be awarded time without any requirement for further peer review of their application and do not need to apply using this process. Other users including those applying under international access agreements will need to use the procedure outlined herein.

Modes of Access to the VELA and CLARA accelerators

3. A Beamtime Access Panel (BAP) has been established to peer review proposals and to ensure a balanced programme on the accelerator. The access scheme seeks to take into account the needs of those researchers with well-established research programmes on the accelerator, as

well as new users and those having novel applications. The accelerator access mechanisms are defined below:

- **Programme Access including STFC Strategic Initiatives**

Programme access can be awarded to UK academics where it has been clearly demonstrated that there is a need for a connected series of experiments or individual experiments requiring a significant amount (normally more than two weeks) of beamtime. Where programme access is to be included in an external grant application, grant applicants must seek approval for their expected beamtime requirements from the VELA and CLARA Exploitation Leader prior to submission of their grant. The BAP will assess the scientific and technical merit of the Programme Access proposal, provide a recommendation on possible approval and propose a level of access, taking into account the need for a balanced programme on the accelerator. The final decision is with the VELA and CLARA Exploitation Leader. Full costs will normally be charged, and are to be included in any research council grant proposal; where Programme Access research has a clear additional benefit to STFC Accelerator science and technology programmes, a reduction from full costs may be applied, at the discretion of the VELA and CLARA Exploitation Leader (the reduction will be in the form of agreed contribution-in-kind access periods). STFC may wish to contribute to UK strategic programme initiatives through earmarked beamtime on the accelerators.

- **Direct Access I – Accelerator science and technology (aligned to STFC strategy).**
- **Direct Access II – Exploitation of the accelerator for wider research.**

Calls for applications requesting ‘direct access’ to the accelerators will be issued periodically. Requests for beamtime under the direct access scheme will normally be for periods less than 2 weeks, with longer requests expected to apply under Programme Access process. Direct access requests for periods longer than 2 weeks may be considered, for example where the proposed work will be in support of a later Programme Access bid, or where the complexity and scientific impact of the proposed experiments justify a longer experimental run.

All proposals are subjected to peer review by the BAP. Successful proposals are scheduled in accordance with accelerator availability as determined by the VELA and CLARA Exploitation Leader.

Recognising the historical and ongoing investment made by STFC in the infrastructure and operation of the accelerators, different cost models will apply for DA-I and DA-II: Access under DA-I, where the proposed exploitation of VELA and CLARA is strongly aligned to STFC accelerator strategy, will be free of operating costs to eligible users.

Access under DA-II, where the proposed exploitation goals are outside of the STFC accelerator strategy remit, will be subject to full operating costs, as specified annually by the VELA and CLARA Exploitation Leader. Where a DA-II proposal has a clear additional benefit to STFC Accelerator science and technology programmes, a reduction from full costs may be applied, at the discretion of the VELA and CLARA Exploitation Leader.

All other costs (for example, provision of equipment to be installed on the accelerator as part of the proposed experiment) are the responsibility of the user.

PEER REVIEW OF PROPOSALS

Assessment Criteria

4. Research proposals requesting access to the accelerator are assessed by peer review, in a “**Beamtime Access Panel**” (BAP). The panel is advisory to the VELA and CLARA Exploitation Leader.

5. Applications are judged against the criteria of scientific excellence and timeliness, taking into account technical feasibility and safety issues. In addition, for each scheduling period, the BAP is invited to advise on the balance to be struck between the various modes of beamtime access.

Remit of Beamtime Access Panel

6. The remit of the BAP is outlined below:

- To assess individual applications for beamtime in conjunction with the technical assessments and rank them in priority order. Separate ranking lists will be prepared for the Transnational Access Programme, Programme Access and Direct Access.
- To determine, with the aid of the technical assessment, the minimum amount of time required for each proposal in order to give it a reasonable chance of success.
- To allocate time to successful proposals starting with the most highly rated and proceeding until all the available beamtime has been allocated. Transnational access will be awarded first up to the limit of days available under this scheme. Programme access applications will then normally be awarded time before moving to the direct access ranking list.
- To review reports on experiments carried out during the previous allocation period and to use this information to inform subsequent allocations.
- To carry out a more general review of the machine performance and to assess whether or not particular users should be given priority due to the loss of experimental time in previous allocation periods.

BAP Membership

7. The BAP is appointed by the VELA and CLARA Exploitation Leader and will comprise the following:
 - At least two senior members of the UK academic accelerator science and technology community.
 - At least two STFC senior accelerator science and technology professionals.

Peer Review of Applications

8. The BAP will apply a common scoring system. Briefing and guidance notes on the scoring system will be provided to panel members.
9. The BAP will peer review all proposals from the UK HEI, EU and overseas applicants. It will not consider commercial or contractual bids submitted under existing contractual arrangements.
10. In the unlikely event of the BAP not having appropriate expertise, the panel will seek additional advice from external referees.
11. For those areas of science where the research community is relatively small, it might be necessary to convene a special advisory panel to assist the BAP in assessing the proposals involved effectively.

Outcomes and Feedback

12. All proposals (successful and unsuccessful) will receive feedback from the BAP.

SCHEDULING

13. The scheduling and allocation of beamtime recommended by the BAP is the responsibility of the VELA and CLARA Exploitation Leader.
14. The scheduling of beamtime will ideally be conducted at least 3 months in advance.
15. If scheduled beamtime is lost during an allocation period, the users are not automatically entitled to have that beamtime rescheduled at a future date. Any possible reallocation of beamtime during a running period will be allocated at the discretion of the VELA and CLARA Exploitation Leader. In addition, the STFC will not provide any financial remuneration for lost expenses associated with an experiment which cannot be run for any reason.

USER SUPPORT

16. Responsibility for management of user access to the accelerator is with the ASTeC administration team.
17. The level of support that a successful user can expect to receive, and the obligations on a user to carry out sufficient preparations in advance of scheduled beam time, are given in the associated document "*VELA and CLARA access: useful information*".

REPORTING AND EVALUATION

18. A report on previous beamtime usage is required from proposers before any new beamtime is allocated. Information should be structured so as to assist in the evaluation of the accelerator capabilities.
19. A common user feedback questionnaire relating to service levels at the accelerator has been developed. Users will be expected to complete this form and submit it to the VELA/CLARA team when requested after completion of their allocated time.
20. The BAP will review their activities after every meeting. The panel will also comment on scientific programmes, emerging themes and the need for future accelerator development requirements.
21. The access arrangements will be kept under regular review following implementation in order to ensure that the process remains 'fit for purpose'.