

Questions that Reviewers are expected to answer

Relevance to DOE mission and ALCC goals.

- a. ALCC supports projects that advance the DOE mission and research priority areas. In your view, how does the project support the DOE mission?

DOE Missions

- *Enhance energy security, environmental quality, and U.S. economic growth and job creation*
Improve energy productivity by improving efficiency
- *Advance options for diverse energy resources including nuclear energy and renewable energy technologies*
- *Deliver scientific discoveries and tools that transform our understanding of nature and strengthen the connection between advances between fundamental science and technological innovation*
- *Conduct discovery focused research to increase our understanding of matter, materials and their properties*
- *Advance capabilities of DOE's world class scientific user facilities to further enable mission focused research and advance scientific discovery*
- *Advance U.S. scientific leadership and economic competitiveness through broader adoption of High Performance Computing*

Research Priority Areas

- DOE/SC/ASCR
- DOE/SC/BES
- DOE/SC/BER
- DOE/SC/FES
- DOE/SC/HEP
- DOE/SC/NP
- DOE/EERE
- DOE/FE
- DOE/NE
- DOE/NNSA

Scientific and/or technical merit of the project.

- a. What problem does the project address and what is the importance of this problem to the field?
- b. How does the project compare with projects in its field, particularly in terms of scientific and/or technical merit?
- c. What are the potential scientific, technological, or societal impacts of the research?

d. Projects that broaden the community of users capable of using HPC resources are encouraged. In what way, if any, does the project broaden the community of users capable of using HPC resources?

Appropriateness of the proposed method or approach.

- a. How does access to ASCR high-end computing resources advance the project? To what extent does the project require ASCR high-end computing resources? To what extent could other resources be used to complete the work?
- b. Are the software and tools capable of running on the requested high-end computing resources(s) or is further software/tool development required? If further development is required, do the applicants have a good approach to managing software/tool development needed for the success of the project?
- c. Are the theoretical models and methods appropriate and likely to lead to valid conclusions?

Competency of applicant's personnel and adequacy of proposed resources.

- a. How well qualified are the applicant's personnel to carry out the proposed research?
- b. If the project requires development of software or tools, how well qualified are the applicant's personnel to carry out this work?
- c. Are all of the applicant's personnel already in place, or will the project need to increase staffing in order to achieve the proposed milestones?

Reasonableness and appropriateness of the proposed allocation request.

- a. Does the proposal provide sufficient detail to justify the computational time requested?
- b. Reasonableness and appropriateness of the proposed allocation request?
- c. What can be accomplished with fewer processor hours?

Overall summary (Optional):

What is your overall assessment? How does the potential to advance the ALCC mission to support science and technology of interest to DOE and/or broaden the community of users capable of using HPC systems, balance against potential risks in the proposed project?

Summary Rating:

Using your responses to Q2-Q6, please provide an overall summary score. (Please choose one whole number.)

5-6 Strongly Recommend

The proposed project addresses a high-impact scientific/technical question. The proposed method is appropriate for high-end computing resources and well developed for answering these key questions. The application team is very knowledgeable in this field.

3-4 Recommend

The proposed project has the potential for progress toward answering an important scientific/technical question. The proposed method is adequately developed: further modification or exploration of new techniques may be required. The application team is comprised of individual's knowledgeable in this field.

1-2 Discourage Support

The proposed project is unlikely to impact an important scientific/technical question. The proposed method is not appropriate or insufficiently developed. The application team is comprised of individuals who do not have adequate expertise.