

APPENDIX II: CRITERIA FOR DEVELOPING LARGE FACILITIES ROADMAPS AND BUDGETS

Excerpted from the National Academies' Report: *Setting Priorities for Large Facility Projects Supported by the National Science Foundation* (<http://www.nap.edu/books/0309090849/html/R1.html>).

First Ranking: Scientific and Technical Criteria Assessed by Researchers in a Field or Interdisciplinary Area

- Which projects have the most scientific merit, potential, and opportunities within a field or interdisciplinary area?
- Which projects are the most technologically ready?
- Are the scientific credentials of the proposers of the highest rank?
- Are the project-management capabilities of the proposal team of the highest quality?

Second Ranking: Agency Strategic Criteria Assessed Across Related Fields by Using the Advice of Directorate Advisory Committees

- Which projects will have the greatest impact on scientific advances in this set of related fields taking into account the importance of balance among fields for NSF's portfolio management in the nation's interest?
- Which projects include opportunities to serve the needs of researchers from multiple disciplines or the ability to facilitate interdisciplinary research?
- Which projects have major commitments from other agencies or countries that should be considered?
- Which projects have the greatest potential for education and workforce development?
- Which projects have the most readiness for further development and construction?

Third Ranking: National Criteria Assessed Across All Fields by the National Science Board

- Which projects are in new and emerging fields that have the most potential to be transformative? Which projects have the most potential to change how research is conducted or to expand fundamental science and engineering frontiers?
- Which projects have the greatest potential for maintaining US leadership in key science and engineering fields?
- Which projects produce the greatest benefits in numbers of researchers, educators, and students enabled?
- Which projects most need to be undertaken in the near term? Which ones have the most current windows of opportunity, pressing needs, and international or interagency commitments that must be met?

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- Which projects will have the greatest impact on current national priorities and needs?
- Which projects have the greatest degree of community support?
- Which projects will have the greatest impact on scientific advances across fields taking into account the importance of balance among fields for NSF's portfolio management in the nation's interest?