

(b) or fails to provide information requested under this section; or

(2) the Chief of Research Security determines the disclosures under this section indicate a threat to research security.

(Pub. L. 117–167, div. B, title III, §10339B, Aug. 9, 2022, 136 Stat. 1556.)

PART E—FUNDAMENTAL RESEARCH

**§ 19051. Broader impacts**

**(a) Assessment**

Not later than 120 days after August 9, 2022, the Director shall enter into an agreement with a qualified independent organization to assess how the Broader Impacts review criterion is applied across the Foundation and make recommendations for improving the effectiveness for meeting the goals established in section 1862p–14 of this title.

**(b) Activities**

The Director shall make awards on a competitive basis, to institutions of higher education or non-profit organizations (or consortia of such institutions or organizations) to support activities to increase the efficiency, effectiveness, and availability of resources for implementing the Broader Impacts review criterion, including—

(1) training and workshops for program officers, merit review panelists, award office administrators, faculty, and students to improve understanding of the goals and the full range of potential broader impacts available to researchers to satisfy this criterion;

(2) repositories and clearinghouses for sharing best practices and facilitating collaboration; and

(3) tools for evaluating and documenting societal impacts of research.

(Pub. L. 117–167, div. B, title III, §10341, Aug. 9, 2022, 136 Stat. 1557.)

**§ 19052. Research ethics**

**(a) Sense of Congress**

It is the sense of Congress that—

(1) a number of emerging areas of research have potential ethical, social, safety, and security implications that might be apparent as early as the basic research stage;

(2) the incorporation of ethical, social, safety, and security considerations into the research design and review process for Federal awards, may help mitigate potential harms before they happen;

(3) the Foundation’s agreement with the National Academies to conduct a study and make recommendations with respect to governance of research in emerging technologies is a positive step toward accomplishing this goal; and

(4) the Foundation should continue to work with stakeholders to promote best practices for governance of research in emerging technologies at every stage of research.

**(b) Incorporation of ethics considerations**

Drawing on stakeholder input, not later than 24 months after August 9, 2022, the Director shall revise proposal instructions to require that ethical and societal considerations are to be in-

cluded as part of a proposal for funding prior to making the award, where such considerations are applicable. Such considerations shall be evaluated by the Director in the review of proposals, taking into account any relevant input from the peer-reviewers for the proposal, and shall factor into award decisions, as deemed necessary by the Director. When incorporating such considerations, proposers may include, as appropriate—

(1)(A) any readily foreseeable or quantifiable risks to society, including how the research could enable products, technologies, or other outcomes that could intentionally or unintentionally cause significant societal harm; or

(B) an assertion that no readily foreseeable potential ethical, social, safety, or security implications are apparent;

(2) how technical or social solutions can mitigate such risks and, as appropriate, a plan to implement such mitigation measures; and

(3) how partnerships and collaborations in the research can help mitigate potential harm and amplify potential societal benefits.

**(c) Guidance**

The Director shall solicit stakeholder input to develop clear guidance on what constitutes a readily foreseeable or quantifiable risk as described in subsection (b)(1), and to the extent practicable harmonize this policy with existing ethical policies or related requirements for human subjects.

**(d) Research**

The Director shall make awards, on a competitive basis, to institutions of higher education or non-profit organizations (or consortia of such institutions or organizations) to support—

(1) research to assess the potential ethical and societal implications of Foundation-supported research and products or technologies enabled by such research, including the benefits and risks identified pursuant to subsection (b)(1); and

(2) the development and verification of approaches to proactively mitigate foreseeable risks to society, including the technical and social solutions identified pursuant to subsection (b)(1).

**(e) Annual report**

The Director shall encourage recipients to update their consideration of potential risks and benefits as appropriate as part of the annual reports required by all awardees under the award terms and conditions.

(Pub. L. 117–167, div. B, title III, §10343, Aug. 9, 2022, 136 Stat. 1557.)

**§ 19053. Research reproducibility and replicability**

**(a) In general**

Consistent with existing Federal law for privacy, intellectual property, and security, the Director shall facilitate public access to research products, including data, software, and code, developed as part of Foundation-supported projects.