

# Principles for Electronic Commerce in Grants Administration

## EXECUTIVE SUMMARY

These core principles reflect the functional specifications recommended for inclusion in all eRA systems that involve or represent research institutions in a substantial, formal or legally binding way.

While general in nature, these core principles are primarily directed to (public and private) organizations that sponsor research. These core principles provide summary of those issues that are important to the Federal Demonstration Partnership (FDP); the FDP encourages sponsors that are designing, developing or deploying eRA systems to carefully consider these principles. Sponsors developing eRA systems are also invited to begin a dialog about these principles or their specific plans with the FDP.

The FDP recognizes that, in the case of several of these principles, there are technological and/or resource limitations that prevent full adherence to a given principle. In these cases the FDP recommends that procedural “work arounds” be developed; nevertheless, we urge that these principles be followed to the maximum extent practicable.

As the overarching standard, we believe that all agency eRA system development initiatives should meet the system requirements for seamless implementation within the Federal Commons

- **Principle 1:** The interests of the funding entities, recipient organizations, and general public are best served when initiatives that involve electronic interactions between a federal funding entity and recipient organization are undertaken within the context of the implementation of PL 106-107
- **Principle 2:** Consultation with recipients early in system development increases both utility and satisfaction
- **Principle 3:** Interoperable systems for the electronic exchange of data in support of grants administration processes are possible only when government-wide data standards, such as the ANSI X-12 transaction sets are used
- **Principle 4:** The promise of electronic commerce in grants administration depends on each funding entity and recipient organization implementing one of the approved data exchange mechanisms.
- **Principle 5:** Funding entities must respect recipient organizations’ need to know what is being proposed by individuals and groups within the organization, and the role organizations play in providing quality control over proposal submissions, and monitoring deliverables
- **Principle 6:** Data should be collected once, at its inception, without redundant data entry

## **Principles for Electronic Commerce in Grants Administration**

- **Principle 7:** Electronic data must be secure from unauthorized access during transmission, storage, and subsequent use by the funding entity
- **Principle 8:** The utility of systems to be used by recipients is greatly enhanced when the systems are pre-loaded with as much funding agency legacy data as possible.
- **Principle 9:** Data integrity is essential
- **Principle 10:** System performance must be adequate for the processes and applications supported
- **Principle 11:** Funding entities are responsible for providing training and support of recipient organization personnel

## Principles for Electronic Commerce in Grants Administration

**Principle 1:** The interests of the funding entities, recipient organizations, and general public are best served when initiatives that involve electronic interactions between a federal funding entity and recipient organization are undertaken within the context of the implementation of PL 106-107

- Electronic systems that maximize convenience to a single department, agency, or program without contributing to a government-wide solution should not be initiated
- Any such programs already in existence should have a plan for converting to one of the government-wide solutions
- Whenever possible, funds that would have been expended for a non-standard solution should be redirected toward a government-wide solution

*Advantage to funding entities:*

✓ avoids costs of one-of-a-kind solutions by leveraging inter-agency efforts

*Advantage to recipient organizations:*

✓ avoids need to learn to utilize a support a plethora of electronic commerce solutions

- **Principle 2:** Consultation with recipients early in system development increases both utility and satisfaction

- The FDP 106-107 committee has reviewed several systems that have not been developed with recipient community consultation do not address the needs of the recipient community.
- Consultation can and should include beta testing with volunteer partners from the recipient community.

*Advantage to funding entities:*

✓ improve the quality of service and systems

*Advantage to recipient organizations:*

✓ reduced workload

- **Principle 3:** Interoperable systems for the electronic exchange of data in support of grants administration processes are possible only when government-wide data standards, such as the ANSI X-12 transaction sets, are used

- Funding entities should refrain from requiring data that is not included in the government-wide data standards
- Data definitions should be standard across funding entities, such that any given data element means the same thing for all funding entities
- Where non-standard data is required by statute, funding entities should devise a mechanism for collecting this data that doesn't compromise the use of data standards (e.g., collect the information as part of the narrative enter this information into internal funding entity systems as necessary)
- Funding entities should take into account the time and expense incurred by recipient organizations when there are changes to the data standards

## Principles for Electronic Commerce in Grants Administration

### *Advantage to funding entities:*

✓ allows use of shared, government-wide systems

### *Advantage to recipient organizations:*

✓ allows the use of one system for all federal funding entities

- **Principle 4:** The promise of electronic commerce in grants administration depends on each funding entity and recipient organization implementing one of the approved data exchange mechanisms.
  - Funding entities should provide recipients the option to use any one of the approved data exchange mechanisms, and use the Federal Commons for transactions that use an exchange mechanism other than that supported by the entity
  - Recipient organizations must commit to the use of one of the approved data exchange mechanisms
  - Business-to-business transactions are appropriate for funding entities and recipients who have a sufficiently large number of grants to merit the investment in electronic grants administration systems
  - Consumer-to-business transactions are appropriate for funding entities or recipients with smaller volumes of grants
  - Electronic submissions are in lieu of paper, not in addition to

### *Advantages to funding entities and recipients:*

✓ Each can use the transmission mechanism most appropriate to their needs, and

✓ Electronic transmission eliminates the need for most paper

✓ Provides an electronic record of the transaction

- **Principle 5:** Funding entities must respect recipient organizations' need to know what is being proposed by individuals and groups within the organization, and the role organizations play in providing quality control over proposal submissions, and monitoring deliverables
  - Electronic systems should incorporate institutional approval of proposals, and should provide access to technical report submissions
  - The electronic identity of the authorized institutional officials has to be established and used
  - Any statutorily mandated, proposal-specific assurances, representations, or certifications can be provided only when the organization is involved in the submission process

## Principles for Electronic Commerce in Grants Administration

### *Advantages to funding entities:*

- ✓ *Ineligible proposals do not reach the funding entity,*
- ✓ *Appropriate assurances, representations, or certifications are obtained, and*
- ✓ *The assistance of recipient organizations is obtained for monitoring deliverables*

### *Advantages to recipient organizations:*

- ✓ *Recipients are not placed in the position of choosing between accepting awards based on proposals it would not have supported (at least not without revisions) and standing between a principal investigator and her/his funding.*
- ✓ *Organizational approval of proposals reduces the negotiation necessary to reach agreement after an award is made*
- ✓ *Recipients have the information necessary to address delinquency of technical reports before funding to other investigators is threatened or audit findings are reported*

- **Principle 6: Data should be collected once, at its inception, without redundant data entry**

- Data ought to be entered only once and updated as needed, by the designated person(s) at the responsible organization authorized to provide it. The submitting organization is the entity responsible for assigning responsibility and authority to its individuals within the context of the roles agreed to by the parties. Once entered, data may be updated only in accordance with established standards (e.g., proposal data may not be updated after a submission deadline except for administrative corrections and with the consent of the affected agency).

Advantage to funding entities and recipient organizations:

- ✓ *elimination of redundant data entry*

- **Principle 7: Electronic data must be secure from unauthorized access during transmission, storage, and subsequent use by the funding entity**

- Security has to be provided to protect the technical narrative of proposals, demographic information, proprietary information, and other information protected under law

### *Advantage to funding entities and recipient organizations:*

- ✓ *Providing data security enables all parties to avoid the liability associated with failing to observe legal requirements for protecting personal and technical information.*
- ✓ *Research results and ideas are safe from misappropriation by unscrupulous individuals and organizations*

## Principles for Electronic Commerce in Grants Administration

- **Principle 8:** The utility of systems to be used by recipients is greatly enhanced when the systems are pre-loaded with as much funding agency legacy data as possible.

### *Advantage to funding entities and recipient organizations:*

- ✓ *elimination of redundant data entry*

- **Principle 9:** Data integrity is essential

- Data transmission has to be confirmed as accurate and complete
- The source and content of the transmission has to be non-refutable
- Where funding entity actions are based on graphical information, such as a technical proposal narrative or report that includes images or other graphics, the funding entity must assure that it does not allow images to be degraded in a way that could result in decisions adverse to the recipient.

### *Advantage to funding entities and recipient organizations:*

- ✓ *A high degree of data integrity increases the extent to which both faculty and program personnel rely on the system, rather than resorting to paper*
- ✓ *Reduces the probability that deserving research goes unfunded because of poor or inaccurate representation*

- **Principle 10:** System performance must be adequate for the processes and applications supported

- System capacity sufficient to handle peak loads
- System response time is acceptable

### *Advantage to funding entities and recipient organizations:*

- ✓ *A high degree of system reliability increases the extent to which both faculty and program personnel rely on the system*
- ✓ *A reliable system avoids problems with making exceptions for late proposals, reports, etc.*

- **Principle 11:** Funding entities are responsible for providing training materials and support of recipient organization personnel

- There is a help desk, or equivalent means for providing ready assistance to users
- There are training materials and training opportunities
- There is documentation and instructions for users

### *Advantage to funding entities and recipient organizations:*

- ✓ *Training and support increase user efficiency*