



April 11, 2008

Memorandum for: The Federal Co-Chair  
ARC Executive Director

Subject: OIG Report 08-09  
Audit of the Appalachian Regional Commission's  
Grant Management System

Attached is our report on ARC's Grant Management System (ARC.net). This audit is the first of two reports dealing with grants management. The upcoming report will deal with the grants management process, including grant oversight and document control.

The report contains ten recommendations which are considered resolved and will be closed when the appropriate actions are completed. Our office will closely follow the implementation of the recommendations and a follow-up audit will be scheduled to review the system changes.

ARC's automation of its grant system has progressed over the years but much more remains to be done with the system and processes surrounding it. ARC grant processes continue to be mostly paper driven. In addition, because of the intensive use of paper for managing grants, as the financial statement audit and performance and accountability report process found, the basic agency and the development district administrative grant information were not included in the grant system's data.

ARC needs to review its current needs and establish a game plan or vision for a completed system. An analysis is not only mandated by OMB Circular A-127 but is a good management practice. I urge ARC to work with OMB to include funding in the next budget cycle for appropriate changes to the system and necessary integration into the new financial management system. Funding should also be included for automation of all existing documents.

This report is also among the first reports being issued by my office without printed copies in keeping with the move at ARC towards becoming more "green" and performing as many tasks online and electronically as possible.

Clifford H. Jennings  
Inspector General

Attachment  
cc: Director- Program Operations Division

**Office of Inspector General**

**Audit of the Appalachian Regional Commission's  
Grant Management System**

The Appalachian Regional  
Commission



**April 11, 2008**

Audit Report 08-09

## Table of Contents

<b>Background .....</b>	<b>3</b>
<b>Summary of Results .....</b>	<b>3</b>
<b>Results of Audit .....</b>	<b>4</b>
<b>Completion of ARC's Grant Management System Has Been Slow and is Incomplete .....</b>	<b>4</b>
<b>Errors in Grant Management System Data .....</b>	<b>9</b>
<b>Weaknesses in System Documentation and Controls over Access and Modification to Data .....</b>	<b>11</b>
<b>Objectives, Scope, and Methodology .....</b>	<b>Appendix A</b>
<b>OMB Circular A-127 (Revised July 23, 1993 and June 10, 1999) .....</b>	<b>Appendix B</b>
<b>ARC's Website Information on Grants.Gov .....</b>	<b>Appendix C</b>
<b>Management's Responses .....</b>	<b>Appendix D</b>

## **Background**

The Appalachian Regional Commission (the Commission or ARC) is a cooperative partnership of Federal and State governments legislated by congress in the Appalachian Regional Development Act of 1965 (ARDA). The Commission was organized to improve the lives of people living in Appalachia, primarily through fostering economic growth and development. Congress provides funding to the Commission to make grants benefiting a thirteen state region encompassing Appalachia.

The Commission, to improve its grant making abilities, instituted the use of outside computer services and later developed its own grants management systems. ARC's first foray into grant computerization was an agreement with another federal agency to provide grant services, followed by an in-house VAX system, and then the later development of a customized relational database system, programmed utilizing R:Base. However, as technology advanced a new system was desired which would provide better access for states and improve the Program Operations Division's (POD) ability to manage its grant activities.

ARC.net was implemented in 2002 and provides an interactive computer platform by which ARC's grant managers can update and retrieve information concerning open and closed grants, grantees, grant amounts, grant terms, the status of reports, performance measures, deadlines, and other significant grant related data. To a lesser extent, system access is granted to state project coordinators to review their state's grant activities. The system also provides control measures for grant approvals and changes through electronically generated, multi-user, approval and amendment forms.

## **Summary of Results**

The ARC.net system is an important component of ARC's grant management process. The system provides information to users about both open and closed grants, including monitoring information, and the status of grant funding. Additionally, it provides information for management's use in analyzing and monitoring its grant programs. Unfortunately, the system has not been fully developed to provide the interactive type of grant administration envisioned by its developer. In addition, system conversion and processing errors have resulted in data that is not completely reliable, and the system documentation and controls over access and modification of data need to be improved.

The developer's plans called for a grant management system that was accessible over the internet to both state and ARC users to fulfill a broad range of grant management needs. The system was to provide an integrated platform by which applicants could electronically apply for federal assistance, provide grant information and request payments for funding; meanwhile, the system would capture grantee information and documents allowing easier set-up and administration of grants. All features contemplated for development would have helped ARC's compliance with E-Government initiatives. However, ARC's management never adopted the developer's plan and has no formal information technology plan which addresses the many E-government grant initiatives. Additionally, a multitude of complexities has slowed development of ARC.net: too few staff to meet ARC.net and other programming needs, lack of fully developed system requirements and time lines for implementation, assumed lack of technological sophistication by Appalachia's applicants, and purported resistance of states grant managers to online grant processing, changing ARC priorities, modification of user features, correction of ARC.net data errors, and failure to periodically review for commercially available software.

To address the computerization needs of grant management, the Commission needs to evaluate the cost and expediency of purchasing off-the-shelf software versus the continued development of ARC.net, although, in a more structured, resource plentiful, environment.

Another significant problem with ARC's grant management system is data related. Operating personnel have uncovered numerous data errors affecting many different types of data. Errors in data stem primarily from conversion errors, system processing errors and errors resulting from data omission. Data conversion errors happened mostly because ARC.net utilizes a different file system structure than the previous system. The parameters in the data transfer protocols could not categorize the information properly. The system's processing of data has also resulted in errors. Processing errors primarily resulted from data fields in grants being linked to data fields in other grants; changes in one data field erroneously updated linked data. Data errors were also noted in grant listings of project states, project counties, and congressional districts. Additionally, pervasive problems affecting the inclusion of certain grant funding amounts have been discovered. Data omission errors have resulted from not having appropriate controls. A former long term employee and project coordinator, contracted to assist in POD's grant operations, is also in the process of analyzing and correcting errors. In the interim, there is no assurance that data is reliable and decision makers should exercise appropriate care.

Lastly, our evaluation of the ARC.net system raised numerous concerns about ARC.net's system documentation, and controls over access and modification of data. Documentation of ARC.net's system and operating structure is lacking or non-existent. An undocumented system and only one Information Technology (IT) staff person<sup>1</sup> makes ARC vulnerable to long-term system failures and data not being available. In addition, the grant management system is provided to many users outside of the grant management department and it provides no oversight of system features assigned to them. Overall, we questioned almost 37% of system access permissions granted. Uncontrolled system access creates unnecessary risk to data integrity. In addition, we noted the need to decrease access and/or require supervisory approval to certain types of data after occurrence of a specified event, such as approval of funding. Any control weaknesses diminishing the integrity of data could impact the quality of management decisions about grant programs. We believe a Commission-wide review and evaluation of system access should be undertaken. Documentation needs to be created to detail the ARC.net system's structure and operations, and additional IT staff should be added to ensure continuity of program operations and future availability of data.

## **Results of Audit**

### **Completion of ARC's Grant Management System Has Been Slow and is Incomplete**

Problems related to defining ARC.net system user needs and the scarce availability of resources has resulted in sluggish implementation of system features and a less than fully functional grants management system. Consequences have been increased manual labor effort, and reduced availability, quality, and timeliness of data.

---

<sup>1</sup> The Commission employs only one staff member to support all of its computer systems and applications; throughout this document the title of IT Manager and Systems Developer are used interchangeably to reflect the particular position described by the work.

The ARC.net system was developed in 2001 and early 2002 and provides basic grant management functionality. As of mid-October 2007, some functionality had been modified, some additional features added and made more user friendly, but many of the developer’s envisioned higher-level system functions for which there seems to be management support had yet to be implemented. When ARC.net was under development in 2001, the IT Manager analyzed document management needs and reported that ARC funded over 500 grants and produced over 60,000 pages of documents each year. Therefore, as the developer recognized, a computerized grant system was needed to reduce paperwork and allow grantees/states to complete online grant applications, reporting forms and payment requests; concurrent with a process to convert paper documents into an indexed, searchable, electronic repository. Additionally, the developer saw the need to integrate the system with an ARC-provided online grant resource center, ARC’s financial system (GLOWS), and the federal grants system (Grants.Gov).

The integration of ARC.net with the systems mentioned above would have helped reduce the volume of paperwork and to streamline the entire grant management process for all parties. Integration with an online resource center would have helped grantees develop their proposals and may have improved ARC’s grant options and ability to filter its projects to meet its performance goals. Linking the system with GLOWS (or in the future, with a different financial system) would have enhanced financial controls, making verification of payments and reconciliation of payments with grant activities simpler.

**Table 1**

<b>Function Not Developed</b>	<b>Reason(s) for Undeveloped System Function*</b>	<b>Auditor’s Comment(s)</b>
<b>I.</b> Online grant application and reporting and payment requests.	1) Some grantees lack internet access and/or the skills necessary to participate online. 2) State project coordinators did not want to lose control of the application process. 3) POD management still likes to receive paper documents (the POD director said that printing of applications would still be needed because ARC uses manual/paper processing and filing methods.	The system developer stated that most areas of Appalachia now have some type of internet access. The purpose of adopting a computerized grant system is to reduce paper documents and improve operational efficiency which will provide better stewardship over ARC’s projects and funding. POD needs to modernize its processing methods and move away from paper processes to become more efficient. The POD director did acknowledge that it may be time to approach the states again about electronic applications as an additional method of applying for grants (not to replace the paper method of applying for grants).
<b>II.</b> Converting documents into a searchable electronic repository.	Forms were not made available online as envisioned.	Scanning of documents into a repository could have been done, but extra effort would have been involved. The IT Manager said he has begun to upgrade the systems ability to allow more grant documents to be uploaded and retained by the system.
<b>III.</b> Integration with an ARC online resource center.	The system was never made available online.	Information is available via the arc.gov website.
<b>IV.</b> Integration with ARC's financial system, GLOWS.	1) GLOWS has a poor database structure and inflexible architecture. 2) ARC anticipated obtaining a new financial system.	Off-the-shelf software to address both grant and financial system needs might have resolved both system needs simultaneously.
<b>V.</b> Integration with Grants.Gov.	1) The system was never made available online for the reasons provided under goal I. 2) ARC and the states feared they would be overwhelmed by inappropriate applications. 3) There are still problems with Grants.Gov and an intergovernmental solution has not been developed.	ARC’s solution to providing an electronic grants management interface with Grants.Gov, in accordance with E-Government initiatives, has been to provide only a textual description of four broad categories of ARC grants available and refer prospective applicants to their state ARC program manager (a contact link to ARC) . However, the web listing provides no link or other state contact information. In addition, the site’s information has not been updated since 2003, a link from the website’s agency search feature for ARC grants produced no results, and ARC’s name is missing from the results produced by other types of searches. See <b>Appendix C.</b>

\*Reasons were provided by ARC's IT Manager and are unverified

Finally, integration into the federal grants system would have accelerated compliance with Public Law 106-107<sup>2</sup> and addressed certain “E-Government Initiatives.”<sup>3</sup> Unfortunately, because of resource limitations, and management priorities, many ARC.net system functions were not developed. Specific functions and the reasons for lack of their development are described in table 1.

Operational issues slowing ARC.net’s development include:

1. An IT department that has too little staff for the computerization efforts undertaken. Two employees (as of March 2007 there was only one IT employee) were assigned responsibilities of overseeing the computer needs of the entire organization, only one of which was assigned to develop a grant management system. Additionally, this one employee was tasked with developing a time and attendance system, has assisted in providing fixes to the financial management system and has been involved in other IT projects.
2. Comprehensive system requirements for ARC.net were not developed and resulted in poor implementation planning. Time frames for implementation were not scheduled and the system developer agreed that he was using a “design and build approach. As a result, ARC has a grant management system for which user requirements were not pre-defined or documented and for which significant functionality still needs to be programmed.

Failure to define the project and relying on a user group, in an ad hoc manner for requirements, after the system’s online implementation (as ARC does), is bound to result in long lead times for completion of functionality. A white paper on system requirements from Borland Corporation states,

Software development projects suffer most when changes in requirements touch off a cascade of delays, revisions and rework. Existing processes for establishing requirements are ad-hoc and inefficient, leading to mis-communication and insufficiently defined requirements. Effective requirement definition(s) at the outset ... will help to reduce rework... and lead to dramatic time and cost savings.<sup>4</sup>

One example of delays from poor system requirements was in the development of an e-mail notification system. An employee e-mail dated December 2003, between POD employees describes an automated system notification feature for overdue project reports and “closeouts.” The e-mail paraphrases the system developer’s statement that the notification feature can easily be made operational; actual implementation occurred almost 4 years later. In discussions with the programmer, he stated that the problems had been that requirements were not developed and provided him, and that more recently, the features (detailed requirements) were changed by POD.

Other issues slowing system development:

- Review of other software alternatives was not made a priority.  
(OMB Circular A-127 requires that customized software be developed only as a last resort. See Appendix B)
  - There was no concerted effort to locate and use “off-the shelf-software.”
  - Review of other agencies’ software applications was minimal.

---

2 Requires agencies to provide a common computerized interface which allows grantees to apply for, manage, and report on the use of grant funds.

3 E-Government Initiatives include, “a government wide solution to support end to end grant management activities that promote citizen access, customer service, and agency financial and technical stewardship.” These initiatives promote the integration with financial management processes, increase usable information content, optimize post-award activity (including close-out activity), and improve collaboration across agencies (and cross-interoperability between agencies), sectors, and levels of government. Public Law 106-107 expired in November 2007 but E-government initiatives continue to go forward.

4 Borland Corporation, “Successful Projects Begin with Well- Defined Requirements,” e-Project Management Advisory Service Executive Update 2 (7), 2001, 11/8/07, < [http://www.borland.com/resources/en/pdf/solutions/rdm-success\\_projects-defined-req.pdf](http://www.borland.com/resources/en/pdf/solutions/rdm-success_projects-defined-req.pdf)>.

- Budget allocations were not made to allow the purchase of commercially available software.
- Change in the Commission's priorities- full ARC.net system implementation has been dropped as a top priority.
- Changing POD and state requirements/needs.
- Adding, correcting, and modifying ARC.net system features already implemented.

ARC did not formally adopt IT plans (or vision statements) and lacks any coordinated implementation program for its IT efforts. Management's failure to more fully computerize and automate the grant management function has impeded ARC's ability to benefit from E-Government initiatives; of primary concern is the more effective monitoring and management of its grant programs. ARC project coordinators must rely on and search for paper documents to coordinate their grant oversight activities. Management oversight is similarly impeded and hampered in its review of grant programs. Additionally, the lack of system availability for grantees to apply for, manage, and close-out grants electronically, increases the time and effort involved by all parties involved with grants and is not in accordance with federal initiatives designed to improve access to, and management of, government grant programs.

#### **Recommendation 1.**

We recommend that the Chief Information Officer review grant management systems at other government agencies and other venues to determine other systems available and viability for use by ARC.

#### **Management's Response**

ARC management agrees that a periodic review of available grant management systems is of value and would assist in determining the most effective and cost efficient options. The ARC.net working group has already met to review the system for the purpose stated in Recommendation #2. In its initial meeting the participants decided to first review other grant management systems to determine if the broad goal of a paperless process as well as ARC's own needs are best achieved using ARC.net or another system. Further review of systems will occur once the system requirements are approved. Once the working group has made its recommendation; then ARC management will implement an every 3-year review of the chosen grant management system versus other options.

#### **Auditor's Comments**

This recommendation is resolved based on management's decision to task development of system requirements to the ARC.net working group and their subsequent decision, "...to determine if the broad goal of a paperless process as well as ARC's own needs are best achieved using ARC.net or another system." This recommendation will be closed upon the review of documentation supporting the analysis of competing systems and their viability for use by ARC.

#### **Recommendation 2.**

We recommend that the Chief Information Officer, in consultation with POD, develop comprehensive grant management system requirements, and associated installation dates; make changes to requirements only for items of significant import.



**Management's Response**

The CIO and POD Director will task this assignment to the ARC.net working group. The Group will report back to the CIO and POD Director with its recommendations within six months. Final approval of the ARC.net system requirements can be made by the ARC Executive Director within one month of their submitted report.

**Auditor's Comments**

This recommendation is resolved based on management's decision to task this recommendation to the ARC.net working group. This recommendation will be closed following the Executive Director's approval of the plan addressing comprehensive grant management system requirements and associated dates.

**Recommendation 3.**

We recommend that the Chief Information Officer, in conjunction with recommendation 1 and 2, evaluate all costs, including the time cost for all employees involved in ARC.net's completion and integration with other systems, versus the purchase of already developed grants management software and make appropriate recommendations to management for system selection.

**Management's Response**

As stated above, ARC will implement recommendation 2 and conduct a review within 6 months and then implement periodic 3-year reviews of the grants management system. The CIO and POD Director will review the costs associated with continued use of ARC.net versus other available and suitable grant management systems. ARC Executive Director shall be provided with the recommendation(s) and will make a final decision.

**Auditor's Comments**

This recommendation is resolved based on management's decision to undertake a current review of ARC.net's cost of completion versus other available systems and to make appropriate recommendations to management. This recommendation will be closed following the review of documentation supporting the proposal to the Executive Director. We strongly urge any decision made by the Executive Director be in compliance with OMB A-127.

**Recommendation 4.**

We recommend that the Executive Director, review the results from recommendation 3 and provide/acquire appropriate funding to support the timely completion of ARC's grant management system; if the system is to be proprietary, additional in-house or contracted staffing may need to be included.

**Management's Response**

Executive Director will review proposed recommendations and take appropriate action.

**Auditor's Comments**

This recommendation is resolved and will be closed following the written and documented decision of the Executive Director. We feel that management should do all that is possible to bring ARC's grant management system to a timely, higher level of usefulness.

## Errors in the Grant Management System's Data

ARC.net maintains grant data for all grants issued by the Commission since its inception. Historical grant data is used for reporting to congressional officials, for comparative purposes and in ARC's analysis of its current programs. POD personnel have discovered a number of data errors, mostly stemming from data migration between ARC.net and its predecessor system. Other causes of data errors have been identified in the processing and tabulation of data provided by the system. Details are provided in Table 2.

A former long term employee and project coordinator, contracted to assist in POD's grant operations, is in the process of analyzing and correcting data errors. In the interim, there is no assurance that data is reliable and decision makers should exercise appropriate care. Although data is being corrected, the IT Manager is relying on the system's user group to supply programming changes, resulting in a filtering process that delays the correction of system processing issues and contributes to additional data errors. For example, the system's developer stated that he is waiting on ARC.net's user group before he begins to correct processing errors related to funding, described under item IX of Table 2. As of September 2007, the user group had not met since February 2007- approximately 7 months.

**Table 2**

Type of Error	Cause(s)**	Auditor's Comment(s)
<b>I.</b> The reported project state and the grantee state differ.	Unknown reason(s).	System parameters in ARC.net may not have allowed for proper recognition of state coding.
<b>II.</b> Approval dates are not recorded for some grants.	The prior system conversion caused a loss of data.	This inaccuracy <u>nearly</u> resulted in a reporting error in ARC's 2007 Performance and Accountability Report, as 57 grants totaling \$4.5 million would have been excluded from the report if they had not detected during a review.
<b>III.</b> Some reported grantee "type" information was changed (or did not exist) when data was transferred to ARC.net. For example, a non-profit designation changed to a Local Development District.	Improper definitions or differences in system architecture.	See above comments made under item <b>I.</b>
<b>IV.</b> No data or incorrect data is provided in some data fields, especially significant are grant "purposes," and "categories."	1) Data from the old system was not available. 2) POD and the former CFO directed that descriptions be consolidated, resulting in data that was not as precise and which could not be wholly mapped to the new system. 3) Differing formats required of data, i.e., the different architectures between the two systems.	Different database structures and user requirements contributed to this problem- additional care in setting up migration criteria might have alleviated some of these errors.
<b>V.</b> Multi-county or multi-congressional districts are recorded in the ARC.net system differently than they were recorded in R: Base.	ARC.net uses different system parameters than R:Base for multi-county reporting; R:Base used the definition "multi" instead of detailing the counties, resulting in ARC.net recording all counties in the state.	See above comments made under item <b>I.</b>
<b>VI.</b> The counties reported for some grantees are different for ARC.net than in the prior system.	Improper definitions or differences in system architecture.	See above comments made under item <b>I.</b>
<b>VII.</b> County and congressional districts may not reflect changes made within the state.	Unknown reason (s).	These problems may be related to data entry errors or omissions. An employee needs to be assigned to periodically review congressional district changes and data entries.

**Table 2 (Continued)**

<b>Type of Error</b>	<b>Cause(s)**</b>	<b>Auditor's Comment(s)</b>
<b>VIII.</b> Some data from existing ARC.net records was changed to the wrong data by the ARC.net system.	Data is linked to information in other records; a change to that information sometimes is not applicable to the record being updated.	This problem was temporarily addressed by locking records (breaking the data links) after initial data entry. The IT Manager is fixing this problem by creating a new database of standardized information to which data can be linked.
<b>IX.</b> Disclosures of funding amounts within ARC.net are often incorrect. For example, we believe that the system incorrectly totals funding when there are revisions and ARC is not the basic agency. Other errors were also noted- see causes.	The amount column reflects the amount of the grant approved, while the amended amount column previously reflected the amended amount of grant approvals, but which now reflects the amount of actual disbursements (from the payment table).	There is mixture of errors in the funding tables because of the change in methodologies of determining funding. Also, recoveries are not properly reflected in the amended funding column. **
<b>X.</b> ARC.net does not reflect grant funds expended by other agencies and are recorded only in the notes section.	System design feature.	All ARC controlled funding should be tracked; reporting should be modified as needed. ARC's grant management system should be modified to capture and report the total of all grants funded by ARC, especially in light of the revisions to OMB Circular A-136, which requires the "Parent" (ARC as the entity receiving the appropriation) to report on the financial expenditures of the administering agency (the "Child").

**\*\*Causes of system and/or data errors were provided by ARC's IT Manager or POD employees and are unverified.**

ARC.net is one of the most important tools for ARC's administration of grant funds. ARC relies on the system to provide information concerning the progress of grantee activities, the amount and timing of payments to be disbursed, contact information, the results of those contacts, and due dates for grantee reports. The system also generates both historical and current information about grant activities.

Failure of the system to provide accurate information can lead to errors and other issues such as: improper assumptions about grantee activities, improper payments, improper reporting to OMB and others, missed contacts with grantees, and have detrimental effects on the attitude and confidence of system users. Moreover, as a key provider of information to ARC management, data inaccuracies could lead to erroneous decision making with respect to the success or failure of grant programs and the future allocation of resources.

**Recommendation 5.**

We recommend that the Chief Information Officer fix errors IX and X, noted in table 2, before proceeding to implement or modify any additional ARC.net features.

**1) Management's Response**

The Database Manager is authorized and has begun to process of hiring additional contractor assistance as needed to correct any bugs in the system including those disclosed in IX and X.

**Auditor's Comments**

This recommendation is resolved based on management's actions. This recommendation will be closed when processing errors and related funding information have been corrected.

**2) Management's Response**

ARC management reserves the right to prioritize any task related to ARC.net as it deems appropriate.

**Auditor's Comments**

Responsibility for program operations lies with management and has always been within the purview of management to disagree with any recommendation.

## **Recommendation 6.**

We recommend the Director of Program Operations Division appoint an employee to review and reconcile, on a weekly basis, data recently entered in the grants management system with original source documentation and in accordance with Program Operation Division's policies.

### **Management's Response**

ARC management is concerned about data integrity. In an ongoing effort to ensure all ARC.net fields are correct, the Director of the Program Operations Division will specifically check project funding and the counties served on all projects with original source documentation. A member of the POD staff will further check all projects to ensure performance measures have been accurately and correctly entered into ARC.net. Performance measures can be reconciled for each fiscal year no later than December 31<sup>st</sup>. Further, once a project is closed, all project data fields can be changed from "edit" to "read only". Any change to a closed field will require the POD Director's approval.

### **Auditor's Comments**

This recommendation is resolved based on management's agreement to review specified elements of data for each grant entered into the grant management system. This recommendation will be closed when documents supporting the review process and results are provided.

## **Weaknesses in System Documentation and Controls over Access and Data Modification**

The ARC.net system is largely undocumented, containing little to no system and user documentation. OMB's Circular A-127 requires "Agency financial management systems and processing instructions be clearly documented..." and "...system specifications and operating instructions (*shall*) be adequate to enable technical personnel to operate the system in an effective and efficient manner." ARC was developed without user manuals (although there are a few exhibits from a 2002 training session) and documents (or comprehensive system documents) flowcharting the process utilized by the system to populate data fields. Technical specifications, which define the system as implemented, were not written and include: file structures, access methods, source code listings and machine procedures. Even privileges, which define user access to broad areas of the system, were not formally documented (or defined), prior to requesting information for the audit, and some remain undefined. Additionally, system access is granted loosely and supervisory approval is not required to make significant changes to data. Furthermore, no formal approval documents for designating employee access to system functions or reviews of that access are required.

Foremost, the lack of documentation creates risk of data not being available when needed. The Commission employs one systems' person, the IT Manager, who is responsible for all the data processing needs of the Commission. If this Manager were to separate from the Commission, or become temporarily unable to perform his duties, current information about ARC's grant programs (and other vital information) would be in jeopardy. There is no other Commission employee that has the ability and knowledge to manage and maintain ARC's systems. Furthermore, it would be difficult for ARC to fill the knowledge gap with an outside contractor as system documentation is lacking.

Access to the ARC.net system functions is granted by a hierarchy of various permissions, permitting designated system users access via "privileges" to a group of resources. Normally, user access, an important internal control feature, is maintained by management. The assignment of access rights

should be limited to the needs of an individual to perform his/her job duties.<sup>5</sup> However, ARC has not formalized this process and per the IT Manager everything was done verbally, ad hoc, and according to departmental needs, but did include the approval of the POD Director.<sup>6</sup>

Non-POD users of the grant management system represent approximately two-thirds of the total active grant management system users; 28 of the 41 active grant management system users are non-POD employees.<sup>7</sup> POD took no part in determining what system access these users should be permitted, despite being charged with responsibility for the grant function. In addition, POD's lack of oversight of other departments' handling of ARC grants has resulted in other concerns as described in the footnote below.<sup>8</sup>

We noted system access features were not provided to employees in a rational, systematic, or documented manner, and were not re-evaluated for ARC.net system changes, duty changes, or changes in personnel assignments. In reviewing job duties and system access, we noted many instances where both POD and non-POD employees had access to features that did not seem appropriate. For example, several POD employees: can close projects manually, instead of using closure forms and receiving the appropriate authorizations; can enter project payment activity, yet are not part of the accounting function; and still others have access to the J-1 Visa program, yet have no functional involvement in that area. Examples of unnecessary access by non-POD personnel include: accounting personnel with the ability to enter project data, and the General Counsel's office with the ability to approve projects as the State's office. Because system documentation does not detail user access features provided by assigned privileges and because we lack detailed descriptions of users' job responsibilities, we cannot definitively state the number of inappropriate privileges assigned. However, using available information, we believe that many of the assigned privileges exceed user needs. For the 273 individually assigned privileges reviewed, we question 101, or 37% of the total privileges assigned.

Other weaknesses in access controls and related system documentation were also noted. Access to certain data fields is restricted but in some cases needs to be more restricted (or totally restricted). Also, user access has been restricted from certain data fields to ensure data integrity but there is no listing of what fields have been restricted or from where data originates.<sup>9</sup> Additionally, there are a number of data fields that should be restricted after certain project activities, such as the approval or disbursement of funds. Some fields that we think should be restricted and/or require supervisory approval after grant funding (or Commission approval) include: the grant purpose, type, grantee name (although a mitigating control is the attached memorandum of approval, a "portable document file," i.e., pdf, which cannot be easily changed), funding source, allocations, and performance measures. Utilizing a system without appropriate access controls adds risk that grantee data can be erroneously edited or purposefully manipulated, impacting reporting and management assessment of program results.

---

5 OMB Circular A-130, Appendix III, *Security of Federal Automated Information Resources*.

6 Subsequent discussions clarified that the former POD Director was only involved in system access assignments for employees of her Department.

7 In addition to the user ratio cited, 13 users, most of whom separated from ARC employment over 2 years ago, have not been purged from the System. There are an additional 3 separated users listed as active, meaning that their "log-in" would permit them system access.

8 Because there is no requirement that all ARC grants flow through POD and therefore into ARC.net system, data omission has contributed to erroneous reporting. Recently, in 2007, the LDD grants manager who does not work under, and is not part of the normal POD internal grant process, manually dispatched 69 grant revisions to the Federal Co-Chairman for approval and received funding through manual processes. No record was ever made of the grants in ARC.net\*, resulting in a \$3.4 million understatement of grants disbursed and nearly a 2007 PAR reporting error (\*the error was subsequently corrected in the next fiscal year). The Regional Planning and Research Division also administers grants and is not subject to POD's oversight.

9 Some of the worksheets developed for individual functions describe the data flows populating certain data fields on some forms, but a comprehensive listing and/or flowcharts detailing data originations has not been developed.

Errors resulting from access control weaknesses and the results of access testing were: **1)** Changes were made to the grant funding source- the category was modified to a data field not being utilized by the state after the project had been established (the Project Coordinator had no recollection of the change). Later the State had to make a request that the funding source be changed again. **2)** A test conducted where a date was entered in the field, "Date Signed Grant Sent to Program Operations," labeled for General Counsel processing, is normally the last step in the authorization process for a grant, yet the grant could still be deleted by POD personnel without supervisory approval (the entire grant file was removed from the database without supervisory approval).

Another weakness in maintaining data integrity is the ability of the project coordinators to change project information for projects over which they do not have oversight. The IT Manager told us that project coordinators could develop lists for projects for which they had oversight, but that lockouts were not project coordinator specific (or user specific, as non- POD personnel from other departments are provided the ability to make changes to POD coordinators data, and visa versa).

Recently, ARC.net somewhat automated the process of notifying grantees and state representatives of reporting deadlines and tardiness concerns. The notification system, instituted with input from the grant coordinators, was not developed with appropriate access limitations. Instead of the system generating notices automatically, which would provide a uniform notification structure, the system allows the coordinator, at will, to determine which grantees to notify. Concerns were that grantees or state representatives might receive e-mails about information of which they were already aware, or that project coordinators might receive and need to respond to additional correspondence from the grantee or state. We think these issues are relatively minor, and that the increased uniformity provided by e-mail automation will provide added program control for management, more than offsetting any additional program burdens from nuisance e-mails. We believe management should reevaluate its policy of granting employee access to disable notification e-mails, especially without approval or timely monitoring protocols.

Lastly, audit change logs are not accessible through user menus and must be accessed through a query. The query generates user change information provided by a +30 digit user reference code and descriptors of activity that are not easily understood. In a system providing open access to many features and different projects, a practical change log is essential to ensure data integrity. The IT Manager acknowledges that the change log needs to be made more user friendly, but has been unable to make modifications because of other pressing concerns.

In summary, system documentation and controls over modifications to grant data needs immediate remediation. To avert unnecessary hardship in operations, it is essential that ARC's systems be documented. The Commission should not take risks with program data by assuming system operations will continue *ad infinitum* and without problems; proactive steps must be taken to ensure data availability. In addition, the system needs to be documented and additional resources provided to bring the grant management system up to par. To ensure data integrity, controls need to be instituted to limit access to system features and data modification to an, "as needed" basis. A commission-wide review and evaluation of user access to system features is needed. Controls for modifying data should be related to grant processes and mitigating controls, e.g., supervisory review of activities. Failure to properly control ARC's grant management system have resulted in erroneous data, and could result in inaccurate conclusions about ARC's programs, and incorrect management decisions.

**Recommendation 7.**

We recommend that the Chief Information Officer, if choosing to continue the development of the ARC.net system, create diagrams of the system and prepare system documentation detailing technical specifications, e.g., file structures, access methods, source code listings, and machine procedures, appropriate to allow IT professionals with no knowledge of the system, the ability to maintain the system and make major programming changes.

**Management's Response**

ARC management accepts this recommendation. The Database Manager is authorized to obtain additional contractor assistance to perform these tasks. He has already requested and received bids from contractors with knowledge of ARC's IT system. A contractor has been hired and begun preparing a User Guide for ARC.net. The goal is to complete the user and technical guides within six months.

**Auditor's Comments**

This recommendation is resolved based on management's acceptance of this recommendation and the hiring of a contractor to begin writing system documentation. This recommendation will be closed following completion of appropriate system documentation.

**Recommendation 8.**

We recommend that the Chief Information Officer, and Director, Program Operations Division, immediately and thereafter at least annually, review system access for all employees, based upon their job duties, and formally provide the Manager of Information Technology privilege assignments for each employee. Further, review employee separation from employment forms to ensure that employee access to the ARC.net system is discontinued in a timely manner.

**Management's Response**

ARC management accepts this recommendation to review system access. Separated employees already have their network, WebTA, and ARC.net accounts disabled. Former employees listed as having active accounts are still in the system for audit trail purposes; their accounts were disabled at separation and in a timely manner.

**Auditor's Comments**

This recommendation is resolved based on management's agreement to review employees' system access. This recommendation will be closed when system access has been modified to correspond with employee job responsibilities.

**Recommendation 9.**

We recommend that the Chief Information Officer, and Director, Program Operations Division, develop a process to ensure that all employees managing grants, from all ARC departments are required to enter grant information into the grants management system, in accordance with policies and procedures established by the Program Operations Division which should be designed to ensure the completeness, quality and consistency of data.

**Management's Response**

ARC management accepts this recommendation. Beginning immediately all grants can be sent to the Project Control Officer for entry and all ARC departments can be directed to enter grant information as required by policies and procedures.

**Auditor's Comments**

This recommendation is resolved based on management's concurrence. This recommendation will be closed when appropriate policies and procedures are established and implemented by Program Operations Division.

**Recommendation 10.**

We recommend that the Chief Information Officer, and Director, Program Operations Division or his assignee, systematically review each ARC.net data entry screen to determine which data fields should be restricted and/or require supervisory approval, the type of restriction needed, and what event(s) would trigger that restriction.

**Management's Response**

ARC management accepts this recommendation and will complete this task within 30 days.

**Auditor's Comments**

This recommendation is resolved based on management's concurrence. This recommendation will be closed after completion of the task and a review of changes made to data entry screens.



## **Appendix A.**

### **Objectives, Scope, and Methodology**

We conducted an audit of ARC's grant management system, ARC.net, to determine its effectiveness in providing guidance to the Commission in support of its goals. Our audit was conducted in Washington, DC, from July 2007 through April 2008 in accordance with *Government Auditing Standards* as prescribed by the Comptroller General of the United States and included tests of internal controls as were considered necessary. The audit covered the entire period of system usage, from system implementation in April 2002 through November 2007.

In reviewing the ARC.net system, we attempted to determine the ease for which it provided useful and appropriate information to all users: the accuracy of the information provided; the structure of the system, including its control structure and automation features; the security and expandability provided by the system architecture; and compliance with applicable federal regulations and best practices. We also evaluated the system for issues related to “off- the-shelf competing systems, costs, and system implementation delays.

We reviewed system requirements, user access to enter data and make changes, system documentation, and implementation schedules. ARC’s Human Resources (HR) Department provided job titles and employee status information. We evaluated the employee information received from HR relative to the user privileges data provided by IT to determine the appropriateness of user access. We discussed the input of ARC.net’s user group with certain members of the group and reviewed correspondence and requirements’ developed by the group. We solicited input from appropriate POD personnel and discussed system issues at length with ARC's Manager of Information Technology, obtaining access and reviewing all system documentation he held in his possession.

During our review, we noted and evaluated certain system weaknesses and errors by obtaining related documents and observing system operations. We did not fully test the ARC.net system and our review was limited to issues identified in this report.

## **Appendix B.**

### **OMB Circular A-127 (Revised)**

July 23, 1993

Circular No. A-127--Revised  
Transmittal Memorandum No. 1

#### **TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS**

**SUBJECT:** Financial Management Systems

Circular No. A-127 prescribes policies and standards for executive departments and agencies to follow in developing, operating, evaluating, and reporting on financial management systems. This Transmittal Memorandum contains updated guidance which eliminates unnecessary overlap between Circular No. A-127 and Circular A-123, "Internal Control Systems"; eliminates unnecessary overlap between Circular No. A-127 and with Circular A-130, "Management of Federal Information Resources"; clarifies terminology and definitions; updates the Circular for statutory and policy changes; clarifies certain agency responsibilities; and eliminates outdated guidance. This Circular replaces and rescinds OMB Circular No. A-127 dated December 19, 1984. This Circular also rescinds OMB memorandum M-85-10, "Financial Management and Accounting Objectives" and M-85-16, "Guidelines for Evaluating Financial Management/Accounting Systems."

**Leon E. Panetta**  
*Director*

Attachment

#### **Transmittal Memorandum No. 1**

#### **TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS**

**SUBJECT:** Financial Management Systems

1. Purpose
2. Rescission
3. Authorities
4. Applicability and Scope
5. Definitions
6. Policy
7. Financial Management System Requirements
8. Financial Management System Improvements
9. Assignment of Responsibilities
10. Information Contact
11. Review Date
12. Effective Date

1. **Purpose.** OMB Circular No. A-127 (hereafter referred to as Circular A-127) prescribes policies and standards for executive departments and agencies to follow in developing, operating, evaluating, and reporting on financial management systems.

2. **Rescission.** This Circular replaces and rescinds Circular A-127 dated December 19, 1984. This Circular also rescinds OMB memorandum M-85-10, "Financial Management and Accounting Objectives" and M-85-16, "Guidelines for Evaluating Financial Management/Accounting Systems."

3. **Authorities.** This Circular is issued pursuant to the Chief Financial Officers Act (CFOs Act) of 1990, P.L. 101-576 and the Federal Managers' Financial Integrity Act of 1982, P.L. 97-255 (31 U.S.C. 3512 et seq.); and 31 U.S.C. Chapter 11.

#### 4. **Applicability and Scope.**

- a. The policies in this Circular apply to the financial management systems of all agencies as defined in Section 5 of this Circular. Agencies not included in the CFOs Act are exempted from certain requirements as noted in Section 9 of this Circular.
- b. The policies contained in OMB Circular No. A-130, "Management of Federal Information Resources" (hereafter referred to as Circular A-130) govern agency management of information systems. The policies contained in Circular A-130 apply to all agency information resources, including financial management systems as defined in this Circular.
- c. The policies and procedures contained in OMB Circular No. A-123, "Internal Control Systems," (hereafter referred to as Circular A-123) govern executive departments and agencies in establishing, maintaining, evaluating, improving, and reporting on internal controls in their program and administrative activities. Policies and references pertaining to internal controls contained in this Circular serve to amplify policies contained in Circular A-123 or highlight requirements unique to financial management systems.

5. **Definitions.** For the purposes of this Circular, the following definitions apply:

The term "agency" means any executive department, military department, independent agency, government corporation, government controlled corporation, or other establishment in the executive branch of the government.

The term "information system" means the organized collection, processing, transmission, and dissemination of information in accordance with defined procedures, whether automated or manual. Information systems include non- financial, financial, and mixed systems as defined in this Circular.

The term "financial system" means an information system, comprised of one or more applications, that is used for any of the following:

- collecting, processing, maintaining, transmitting, and reporting data about financial events;
- supporting financial planning or budgeting activities;
- accumulating and reporting cost information; or
- supporting the preparation of financial statements.

A financial system supports the financial functions required to track financial events, provide financial information significant to the financial management of the agency, and/or required for the preparation of financial statements. A financial system encompasses automated and manual processes, procedures, controls, data, hardware, software, and support personnel dedicated to the operation and maintenance of system functions. A financial system may include multiple applications that are integrated through a common database or are electronically interfaced, as necessary, to meet defined data and processing requirements.

The term "non-financial system" means an information system that supports non-financial functions of the Federal government or components thereof and any financial data included in the system are insignificant to agency financial management and/or not required for the preparation of financial statements.

The term "mixed system" means an information system that supports both financial and non-financial functions of the Federal government or components thereof.

The term "financial management systems" means the financial systems and the financial portions of mixed systems necessary to support financial management.

The term "single, integrated financial management system" means a unified set of financial systems and the financial portions of mixed systems encompassing the software, hardware, personnel, processes (manual and automated), procedures, controls and data necessary to carry out financial management functions, manage financial operations of the agency and report on the agency's financial status to central agencies, Congress and the public. Unified means that the systems are planned for and managed together, operated in an integrated fashion, and linked together electronically in an efficient and effective manner to provide agency-wide financial system support necessary to carry out the agency's mission and support the agency's financial management needs.

The term "application (financial or mixed system)" means a group of interrelated components of financial or mixed systems which supports one or more functions and has the following characteristics:

- a common data base
- common data element definitions
- standardized processing for similar types of transactions
- common version control over software

The term "financial event" means any occurrence having financial consequences to the Federal government related to the receipt of appropriations or other financial resources; acquisition of goods or services; payments or collections; recognition of guarantees, benefits to be provided, or other potential liabilities; or other reportable financial activities.

The term "work process" means a series of activities operating together to achieve an end or desired result (mission, goal or objective). A work process is a workflow or series of steps necessary for the initiation, tracking and delivery of services or outputs. The process reflects how resources are managed to deliver the services or outputs and may cut across existing or future organizational boundaries.

**6. Policy.** Financial management in the Federal government requires accountability of financial and program managers for financial results of actions taken, control over the Federal government's financial resources and protection of Federal assets. To enable these requirements to be met, financial management systems must be in place to process and record financial events effectively and efficiently, and to provide complete, timely, reliable and consistent information for decision makers and the public.

The Federal government's financial management system policy is to establish government-wide financial systems and compatible agency systems, with standardized information and electronic data exchange between central management agency and individual operating agency systems, to meet the requirements of good financial management. These systems shall provide complete, reliable, consistent, timely and useful financial management information on Federal government operations to enable central management agencies, individual operating agencies, divisions, bureaus and other subunits to carry out their fiduciary responsibilities; deter fraud, waste, and abuse of Federal government resources; and facilitate efficient and effective delivery of programs through relating financial consequences to program performance.

In support of this objective, each agency shall establish and maintain a single, integrated financial management system that complies with:

- applicable accounting principles, standards, and related requirements as defined by OMB and the Department of the Treasury;
- internal control standards as defined in Circular A-123 and/or successor documents;
- information resource management policy as defined in Circular A-130 and/or successor documents; and

-- operating policies and related requirements prescribed by OMB, the Department of the Treasury and the agency.

An agency's single, integrated financial management system shall comply with the characteristics outlined in Section 7 of this Circular.

**7. Financial Management System Requirements.** Agency financial management systems shall comply with the following requirements:

- a. **Agency-wide Financial Information Classification Structure.** The design of the financial management systems shall reflect an agency-wide financial information classification structure that is consistent with the U.S. Government Standard General Ledger, provides for tracking of specific program expenditures, and covers financial and financially related information. This structure will minimize data redundancy, ensure that consistent information is collected for similar transactions throughout the agency, encourage consistent formats for entering data directly into the financial management systems, and ensure that consistent information is readily available and provided to internal managers at all levels within the organization. Financial management systems' designs shall support agency budget, accounting and financial management reporting processes by providing consistent information for budget formulation, budget execution, programmatic and financial management, performance measurement and financial statement preparation.
- b. **Integrated Financial Management Systems.** Financial management systems shall be designed to provide for effective and efficient interrelationships between software, hardware, personnel, procedures, controls, and data contained within the systems. In doing so, they shall have the following characteristics:
  - **Common Data Elements.** Standard data classifications (definitions and formats) shall be established and used for recording financial events. Common data elements shall be used to meet reporting requirements and, to the extent possible, used throughout the agency for collection, storage and retrieval of financial information. Government-wide information standards (e.g., the U.S. Government Standard General Ledger) and other external reporting requirements shall be incorporated into the agency's standard data classification requirements.
  - **Common Transaction Processing.** Common processes shall be used for processing similar kinds of transactions throughout the system to enable these transactions to be reported in a consistent manner.
  - **Consistent Internal Controls.** Internal controls over data entry, transaction processing and reporting shall be applied consistently throughout the system to ensure the validity of information and protection of Federal government resources.
  - **Efficient Transaction Entry.** Financial system designs shall eliminate unnecessary duplication of transaction entry. Wherever appropriate, data needed by the systems to support financial functions shall be entered only once and other parts of the system shall be updated through electronic means consistent with the timing requirements of normal business/transaction cycles.
- c. **Application of the U.S. Government Standard General Ledger at the Transaction Level.** Financial events shall be recorded by agencies throughout the financial management system applying the requirements of the U.S. Government Standard General Ledger (SGL) at the transaction level. Application of the SGL at the transaction level means that the financial management systems will process transactions following the definitions and defined uses of the general ledger accounts as described in the SGL. Compliance with this standard requires:
  - **Data in Financial Reports Consistent with the SGL.** Reports produced by the systems that provide financial information, whether used internally or externally, shall provide financial data that can be traced directly to the SGL accounts.
  - **Transactions Recorded Consistent with SGL Rules.** The criteria (e.g., timing, processing rules/conditions) for recording financial events in all financial management systems shall be consistent with accounting transaction definitions and processing rules defined in the SGL.
  - **Supporting Transaction Detail for SGL Accounts Readily Available.** Transaction detail supporting

SGL accounts shall be available in the financial management systems and directly traceable to specific SGL account codes.

Agencies may supplement their application of the SGL to meet agency specific information requirements in accordance with guidance provided in the U.S. Government Standard General Ledger supplement to the Treasury Financial Manual.

- d. Federal Accounting Standards. Agency financial management systems shall maintain accounting data to permit reporting in accordance with accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB) and issued by the Director of OMB, and reporting requirements issued by the Director of OMB and/or the Secretary of the Treasury. Where no accounting standards have been recommended by FASAB and issued by the Director of OMB, the systems shall maintain data in accordance with the applicable accounting standards used by the agency for preparation of its financial statements. Agency financial management systems shall be designed flexibly to adapt to changes in accounting standards.
- e. Financial Reporting. The agency financial management system shall meet the following agency reporting requirements:
  - Agency Financial Management Reporting. The agency financial management system shall be able to provide financial information in a timely and useful fashion to (1) support management's fiduciary role; (2) support the legal, regulatory and other special management requirements of the agency; (3) support budget formulation and execution functions; (4) support fiscal management of program delivery and program decision making, (5) comply with internal and external reporting requirements, including, as necessary, the requirements for financial statements prepared in accordance with the form and content prescribed by OMB and reporting requirements prescribed by Treasury; and (6) monitor the financial management system to ensure the integrity of financial data.
  - Performance Measures. Agency financial management systems shall be able to capture and produce financial information required to measure program performance, financial performance, and financial management performance as needed to support budgeting, program management and financial statement presentation. As new performance measures are established, agencies shall incorporate the necessary information and reporting requirements, as appropriate and feasible, into their financial management systems.
- f. Budget Reporting. Agency financial management systems shall enable the agency to prepare, execute and report on the agency's budget in accordance with the requirements of OMB Circular No. A-11(Preparation and Submission of Budget Estimates), OMB Circular No. A-34 (Instructions on Budget Execution) and other circulars and bulletins issued by the Office of Management and Budget.
- g. Functional Requirements. Agency financial management systems shall conform to existing applicable functional requirements for the design, development, operation, and maintenance of financial management systems. Functional requirements are defined in a series of publications entitled Federal Financial Management Systems Requirements issued by the Joint Financial Management Improvement Program (JFMIP). Additional functional requirements may be established through OMB circulars and bulletins and the Treasury Financial Manual. Agencies are expected to implement expeditiously new functional requirements as they are established and/or made effective.
- h. Computer Security Act Requirements. Agencies shall plan for and incorporate security controls in accordance with the Computer Security Act of 1987 and Circular A-130 for those financial management systems that contain "sensitive information" as defined by the Computer Security Act.
- i. Documentation. Agency financial management systems and processing instructions shall be clearly documented in hard copy or electronically in accordance with (a) the requirements contained in the Federal Financial Management Systems Requirements documents published by JFMIP or (b) other applicable requirements. All documentation (software, system, operations, user manuals, operating procedures, etc.) shall be kept up-to-date and be readily available for examination. System user documentation shall be in sufficient detail to permit a person, knowledgeable of the agency's programs and of systems generally, to obtain a comprehensive understanding of the entire operation of each system. Technical systems documentation such as requirements

documents, systems specifications and operating instructions shall be adequate to enable technical personnel to operate the system in an effective and efficient manner.

- j. Internal Controls. The financial management systems shall include a system of internal controls that ensure resource use is consistent with laws, regulations, and policies; resources are safeguarded against waste, loss, and misuse; and reliable data are obtained, maintained, and disclosed in reports. Appropriate internal controls shall be applied to all system inputs, processing, and outputs. Such system related controls form a portion of the management control structure required by Circular A-123.
- k. Training and User Support. Adequate training and appropriate user support shall be provided to the users of the financial management systems, based on the level, responsibility and roles of individual users, to enable the users of the systems at all levels to understand, operate and maintain the system.
- l. Maintenance. On-going maintenance of the financial management systems shall be performed to enable the systems to continue to operate in an effective and efficient manner. The agency shall periodically evaluate how effectively and efficiently the financial management systems support the agency's changing business practices and make appropriate modifications.

**8. Financial Management System Improvements.** In improving financial management systems, agencies shall follow the information technology management policies presented in Circular A-130. In addition, agencies shall comply with the following policies in designing, developing, implementing, operating and maintaining financial management systems:

- a. Improvement in Agency Work Processes. Designs for financial systems and mixed systems shall be based on the financial and programmatic information and processing needs of the agency. As part of any financial management system design effort, agencies are to analyze how system improvements, new technology supporting financial management systems, and modifications to work processes can together enhance agency operations and improve program and financial management. The reassessment of information and processing needs shall be an integral part of the determination of system's requirements. Process redesign shall be considered an essential step towards meeting user needs in program management, financial management, and budgeting. Concurrent with developing and implementing integrated financial management systems, agencies shall consider program operations, roles and responsibilities, and policies/practices to identify related changes necessary to facilitate financial management systems operational efficiency and effectiveness.
- b. Cost Effective and Efficient Development and Operation of Financial Management Systems. Financial management system development and implementation efforts shall seek cost effective and efficient solutions as required by Circular A-130. A custom software development approach for financial management systems shall be used as a last resort and only after consideration of all appropriate software options, including the following:
  - use of the agency's existing system with enhancements/upgrades,
  - use of another system within the department/agency,
  - use of an existing system at another department/agency,
  - use of a commercial "off-the-shelf" software package,
  - use of a system under development at another department, or
  - use of a private vendor's service.

The cost effectiveness of developing custom software shall be clear and documented in a benefit/cost analysis that includes the justification of the unique nature of the system's functions that preclude the use of alternative approaches. This analysis shall be made available to OMB for review upon request.

- c. Cross or Private Servicing. Cross servicing of financial system support, where one agency or a division within an agency provides financial management software and processing support to another agency or division within an agency, or private servicing through commercial vendors shall be used whenever feasible and cost effective, as a solution to meet Federal government financial management system needs. Agencies providing cross-servicing

support shall ensure that systems are maintained appropriately; fees for service are reasonable; adequate conversion support is provided; procedures, training and documentation are available and periodic service reviews are conducted. Small agencies are particularly encouraged to use cross-servicing to meet fundamental core financial and payroll/personnel processing and reporting requirements.

- d. Use of "Off-the-Shelf" Software. GSA shall maintain the Financial Management System Software (FMSS) Multiple Award Schedule for vendors providing acceptable software which meets the core financial system requirements as defined in the Core Financial System Requirements document published by JFMIP and other applicable accounting principles, standards, and related requirements as defined by OMB for governmentwide use. Such software packages will be "benchmarked," as appropriate, by an independent team approved by the OMB Office of Federal Financial Management (OFFM) or its designee to assure the software complies with such requirements. Periodic recertification will be required to ensure that software continues to support financial system requirements.

Agencies replacing software to meet core financial system requirements must use "off-the-shelf" software from the GSA FMSS Multiple Award Schedule unless a waiver is granted under the Federal Information Resources Management Regulations (FIRMR). Agencies obtaining such a waiver must ensure the system, whether resulting from a custom software development approach or from software existing within or external to the agency, is "benchmarked" by an independent team approved by OFFM or its designee.

Financial management system software meeting requirements beyond the scope of the Core Financial System Requirements document may also be made available under the GSA FMSS Multiple Award Schedule as agreed to by the OFFM or its designee.

- e. Joint Development of Software. Agencies with similar financial management functions, after considering "off-the-shelf" software solutions, are encouraged to undertake joint development efforts by pooling resources and developing common approaches for meeting similar financial functions. The designs for jointly developed software shall contain the flexibility and other features needed for transportability of the system to other agencies and/or cross-servicing.
- f. Transfer of Agency Financial Management Software. In cases where an agency determines it is more efficient and effective to use or adopt the software of another agency to meet its financial management system requirements, the agency shall ensure the following:
  1. The software meets the financial management system requirements in Section 7 of this Circular.
  2. A formal written agreement on the transfer of software is prepared and approved by all parties. The agreement shall cover the full scope of support services to be provided including system modifications, maintenance and related costs;
  3. Any necessary support requirements not covered in the agreement shall be provided by the agency and such support, including implementation support and training, shall be assessed and determined to be adequate.
  4. An ongoing relationship for determining future enhancements shall be established between the parties involved.

Any compensation arrangements for the transfer of the software shall conform to Circular A-130 policies.

## **9. Assignment of Responsibilities.**

- a. Agency Responsibilities. Agencies shall perform the financial management system responsibilities prescribed by legislation referenced in Section 3 "Authorities" of this Circular. In addition, each agency shall take the following actions:
  1. Develop and Maintain an Agency-wide Inventory of Financial Management Systems.

Agencies are required to maintain an inventory of existing and proposed financial management systems. Annually CFOs Act agencies will provide OMB with financial management system information in



compliance with the financial system planning guidance issued by OMB for the Agency CFO 5-Year Financial Management Plan. Financial management systems shall be included in the agency information systems inventory following the information system inventory policies established in OMB Circular A-130.

2. Develop and Maintain Agency-wide Financial Management System Plans.

Agencies are required to prepare annual financial management systems plans. These plans shall be developed in accordance with OMB guidance issued annually. Financial management system planning guidance for CFOs Act agencies shall be included in the guidance for developing CFO Financial Management 5-Year Plans.

The financial management systems strategies and tactical initiatives included in the CFO Financial Management 5-Year Plan shall be incorporated into the agency's five year information systems plan prepared in compliance with Circular A-130.

Agencies not covered by the CFOs Act shall prepare plans following the CFO Financial Management 5-Year Plan guidance but are not required to submit the plans to OMB. Financial management system plans shall be an integral part of the agency's overall planning process and updated for significant events that result in material changes to the plan as they occur.

3. Review of Agency Financial Management Systems.

Each agency shall ensure appropriate reviews are conducted of its financial management systems. The results of these reviews shall be considered when developing financial management systems plans. OMB encourages agencies to coordinate and, where appropriate, combine required reviews. Reviews must comply with policies for (1) reviews of internal controls undertaken and reported on in accordance with the guidance issued by OMB for compliance with the requirements of the Federal Managers' Financial Integrity Act (FMFIA) and Circular A-123, (2) reviews of conformance of financial management systems with the principles, standards and related requirements in Section 7 of this Circular undertaken in accordance with the guidance issued by OMB for compliance with requirements of the FMFIA, and (3) reviews of systems and security as required under provisions of Circular A-130.

4. Develop and Maintain Agency Financial Management System Directives.

Agencies shall issue, update, and maintain agency-wide financial management system directives to reflect policies defined in this Circular.

- b. GSA Responsibilities. GSA is responsible for maintaining the FMSS Multiple Award Schedule for Federal financial management software and related services in accordance with guidance provided by OMB.

10. **Information Contact.** All questions or inquiries should be addressed to the Office of Federal Financial Management, Federal Financial Systems Branch, telephone number 202/395-6903.

11. **Review Date.** This Circular shall be reviewed three years from the date of issuance to ascertain its effectiveness.

12. **Effective Date.** This Circular is effective immediately.

June 10, 1999

Circular No. A-127--Revised  
Transmittal Memorandum No. 2

**TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS**

**SUBJECT:** Financial Management Systems

This Transmittal Memorandum revises Circular No. A-127, "Financial Management Systems", dated July 23, 1993, by revising Sections 8d and 9b. It also will add new Sections 9a(3) and 9c. These changes are being made to reflect recommendations from the Chief Financial Officers (CFO) Council. These recommendations change the process for acquiring software to meet core financial system requirements by eliminating the restriction to only acquire the software and related services from the FMSS Schedule, and to provide for software testing that is independent of the procurement process. These updates will become effective on the dates specified in the attachment. A complete revision of Circular A-127 is forthcoming in the near future which will incorporate these changes in the text of the Circular.

All questions or inquiries concerning OMB Circular A-127 should be addressed to the Office of Federal Financial Management, Federal Financial Systems Branch, telephone number 202/395-6903.

**Jacob J. Lew**  
*Director*

Attachment

**The changes to Circular A-127 are as follows.**

1. Section 8d of the current Circular should be deleted in its entirety and replaced with the following:

8d(1)*Use of "Off-the-Shelf" Software.* Agencies replacing software to meet core financial system requirements are required to use the GSA FMSS Multiple Award Schedule until its expiration on September 30, 1999. As of October 1, 1999 agencies replacing software to meet core financial system requirements are no longer required to use the GSA FMSS Multiple Award Schedule; they must use "off-the-shelf" software that has been tested and certified through the JFMIP software certification process as meeting JFMIP Core Financial Management System Requirements. Agencies may purchase this software using the strategy and procurement vehicle they believe will best enable them to meet their needs in a timely and effective manner following the competition requirements associated with the procurement vehicle being used to conduct the acquisition.

In addition, agencies will notify JFMIP that a core financial management software procurement is planned - - preferably prior to, or in the early phases of, acquisition planning. JFMIP will electronically post a public message to permit interested certified system vendors to market agencies. The sole purpose of this message is to facilitate agency market research. This message is not intended to, and shall not, serve as an invitation for offerors to submit bids, proposals, or quotes.

OMB policy pertaining to using "off-the-shelf" software is contained in OMB Circular A-130 and must be followed when replacing financial management systems.

8d(2) *Software Certification Testing*. "Off-the-shelf" software will be tested to ensure that it meets core financial system requirements as defined in the *Core Financial System Requirements* document published by JFMIP. JFMIP will coordinate the testing process and issue software certifications. Information on the details of the certification testing process and its results will be available to any interested Federal agency for any certified software package.

2. A new section 9a(3) is being added to the current Circular as follows:

9a.(3) *Notify JFMIP on Plans to Acquire Core Financial System Software*. Agencies shall notify JFMIP on plans to acquire software supporting core financial system functions.

3. Section 9b of the current Circular is revised to read as follows:

9b. *GSA Responsibilities*. GSA is responsible for continuing to support existing contracts under the FMSS Schedule until their completion. GSA also will make procurement vehicles available to agencies for acquiring software which has been certified according to the processes in Section 8d(2).

4. A new Section 9c is being added and will read as follows:

9c. *JFMIP Responsibilities*. JFMIP will establish processes for testing "off-the-shelf" software supporting core financial system requirements which include:

- developing and administering the certification test.
- notifying GSA when a software package successfully completes the certification test.
- providing interested parties with information on the core financial system requirements and their related testing scenarios.
- providing interested parties with details on the results of the certification tests for certified software packages.
- posting a public notice on planned core financial system procurements.

## **Appendix C.**

### **ARC's Website Information on Grants.Gov**



## FOR APPLICANTS

### Find Grant Opportunities

- [Basic Search](#)
- [Browse by Category](#)
- [Browse by Agency](#)
- [Advanced Search](#)
- [Email Subscription](#)

### Get Registered

### Apply for Grants

### Track Your Application

### Applicant Resources

### APPLICANT SYSTEM-TO-SYSTEM

### FOR GRANTORS

### ABOUT GRANTS.GOV

### HELP

### CONTACT US

### SITE MAP

[Home](#) > [Find Grant Opportunities](#) > [Search Grant Opportunities](#) > [Search Results](#) > [Synopsis](#)

## Appalachian Regional Development

### Synopsis

### Full Announcement

### Application

The synopsis for this grant opportunity is detailed below, following this paragraph. This synopsis contains all of the updates to this document that have been posted as of **10/30/2003**. If updates have been made to the opportunity synopsis, update information is provided below the synopsis.

If you would like to receive notifications of changes to the grant opportunity click [send me change notification emails](#). The only thing you need to provide for this service is your email address. No other information is requested.

*Any inconsistency between the original printed document and the disk or electronic document shall be resolved by giving precedence to the printed document.*

Document Type:	Grants Notice
Funding Opportunity Number:	ARC-GRANTS-103003-001
Opportunity Category:	Discretionary
Posted Date:	Oct 30, 2003
Creation Date:	Oct 30, 2003
Original Closing Date for Applications:	Due dates vary.
Current Closing Date for Applications:	Due dates vary.
Archive Date:	
Funding Instrument Type:	Cooperative Agreement Grant Other
Category of Funding Activity:	Other (see text field entitled "Explanation of Other Category of Funding Activity" for clarification) Regional Development
Category Explanation:	
Expected Number of Awards:	
Estimated Total Program Funding:	
Award Ceiling:	
Award Floor:	
CFDA Number:	23.001 -- Appalachian Regional Development (See individual Appalachian Programs)
CFDA Number:	23.002 -- Appalachian Area Development
CFDA Number:	23.009 -- Appalachian Local Development District Assistance
CFDA Number:	23.011 -- Appalachian State Research, Technical Assistance, and Demonstration Projects
Cost Sharing or Matching Requirement:	Yes

### Eligible Applicants

State governments  
 County governments  
 City or township governments  
 Special district governments  
 Independent school districts  
 Public and State controlled institutions of higher education  
 Native American tribal governments (Federally recognized)  
 Public housing authorities/Indian housing authorities  
 Native American tribal organizations (other than Federally recognized tribal governments)  
 Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher education  
 Private institutions of higher education  
 Others (see text field entitled "Additional Information on Eligibility" for clarification)

### Additional Information on Eligibility:

### Agency Name

### Description

The Appalachian Regional Commission awards grants from funds appropriated to the Commission annually by Congress. ARC awards program grants for projects that benefit the Appalachian Region by furthering the five goals identified by the Commission in its strategic plan. Typically, ARC grants are awarded to state and local agencies and governmental entities (such as economic development authorities), local governing boards (such as county councils), and nonprofit organizations (such as schools and organizations that build low-cost housing). Program grants are made to nonprofit organizations. Most program grants originate at the state level. Potential applicants should contact their state ARC program manager to request a pre-application package. The local development district serving the county in which the project is located may provide guidance on a project's eligibility for funding and assistance in preparing a grant application.

### Link to Full Announcement

### If you have difficulty accessing the full announcement electronically, please contact:

Bernard, Lionel, Database Administrator, Phone 202-884-7734, Fax 202-884-7691, Email [lbernard@arc.gov](mailto:lbernard@arc.gov) [Bernard, Lionel](#)

### Synopsis Modification History

There are currently no modifications for this opportunity.


[Home](#) » [Applicants](#) » [Search Opportunities](#) »

## APPLICANTS

### About Federal Grants

### Get Registered

### Find Grant Opportunities

#### Search Opportunities

- Basic Search
- Browse by Category
- Browse by Agency
- Advanced Search

#### Email Subscription

### Apply for Grants

### Track My Application

### Applicant Help

### ABOUT GRANTS.GOV

### FOR AGENCIES

### RESOURCES

### HELP

### CONTACT US

### SITE MAP

## &NBSPSELECTED GRANT APPLICATIONS FOR DOWNLOAD

Download the application and its instructions by selecting the corresponding download link. Save these files to your computer for future reference and use. You do not need Internet access to read the instructions or to complete the application once you save them to your computer.

### READ BELOW BEFORE YOU APPLY FOR THIS GRANT!

Before you can view and complete an application package, you **MUST** have the PureEdge Viewer or compatible Adobe Reader installed. Application packages are posted in either PureEdge or Adobe Reader format. You may receive a validation error using incompatible versions of Adobe Reader. To prevent a validation error, it is now recommended you uninstall any earlier versions of Adobe Reader and install the latest compatible version of Adobe Reader.

**If more than one person is working on the application package, ALL applicants must be using the same software version.**

Click [here](#) to download the required PureEdge Viewer and Adobe Reader if you do not have it installed already.

#### Additional Resources:

- Sign-up for [Grants.gov Updates](#) for the latest issues and news.
- Download [Adobe Reader](#) and [PureEdge Viewer](#) for free.
- Visit [Help](#) for FAQs and more information on Applying for grants.

Below is a list of the application(s) currently available for the CFDA and/or Funding Opportunity Number that you entered.

To download the application instructions or package, click the corresponding download link. You will then be able to save the files on your computer for future reference and use.

The application package for Funding Opportunity Number "ARC-GRANTS-103003-001" has not been posted by the awarding agency for submission through Grants.gov. See the Full Funding Opportunity for application instructions.

CFDA	Opportunity Number	Competition ID	Competition Title	Agency	Instructions and Application

## **Appendix D.**

### **Management's Responses to Draft Report and Recommendations**





March 31, 2008

Memorandum for: Clifford Jennings, Inspector General  
Appalachian Regional Commission

From: Thomas M. Hunter, Executive Director *TH*

Subject: OIG Audit of ARC's Grant Management Guidance

ARC management is appreciative of the detailed look at ARC.net and the recommendations as to how to make it a more responsive system. We accept the audit conclusion that the ARC.net needs revisions and updates. As outlined below steps are already underway to secure the manpower required to correct errors occurring in the system, update functionality, and to prepare user and technical guides.

ARC will certainly begin a regular process of evaluating its choice of an in-house developed system versus commercially available options. From ARC management's perspective this is not merely a financial decision. Factors that will be considered are the ability to update and improve the system that meets ARC requirements and the quality of service.

ARC management agrees with a vision of its grants management system as a paperless grant application that can be integrated into an interactive database. As we move toward achieving this, we are mindful that as a State - Federal partnership we must work with our thirteen partners to bring this to fruition. Given the organizational structure of the Commission, and the statutory requirement that all projects submitted to us must come through the State ARC offices, we anticipate a paperless application within 2 to 4 years. We have had preliminary discussion with our state partners about the need to move to a paperless application process, and will pursue this more vigorously within this fiscal year. Once the system is designed the plan is to choose a state to test the system.

ARC management does differ with one audit finding. Separated employees, for example, do not have continued access to ARC.net. The Database Administrator states that separated employees are still listed within ARC.net as active purely for historical transaction purposes. Their access to ARC.net was revoked at the time of separation and there is a process to ensure this occurs.

Below you'll find a response to each of the recommendations. If you need clarification on any item or if additional information is needed, please contact either Bill Grant or Henry King.

## **Recommendations:**

We recommend that the Chief Information Officer:

1. Reviews grant management systems at other government agencies and other venues to determine other systems available and viability for use by ARC.

ARC management agrees that a periodic review of available grant management systems is of value and would assist in determining the most effective and cost efficient options. The ARC.net working group has already met to review the system for the purpose stated in Recommendation #2. In its initial meeting the participants decided to first review other grant management systems to determine if the broad goal of a paperless process as well as ARC's own needs are best achieved using ARC.net or another system. Further review of systems will occur once the system requirements are approved. Once the working group has made its recommendation; then ARC management will implement an every 3-year review of the chosen grant management system versus other options.

2. In consultation with POD, develop comprehensive grant management system requirements, and associated installation dates; make changes to requirements only for items of significant import.

The CIO and POD Director will task this assignment to the ARC.net working group. The Group will report back to the CIO and POD Director with its recommendations within six months. Final approval of the ARC.net system requirements will be made by the ARC Executive Director within one month of their submitted report.

3. In conjunction with recommendation 1 and 2, evaluate all costs, including the time cost for all employees involved in ARC.net's completion and integration with other systems, versus the purchase of already developed grants management software and make appropriate recommendations to management for system selection.

As stated above, ARC will implement recommendation 2 and conduct a review within 6 months and then implement periodic 3-year reviews of the grants management system. The CIO and POD Director will review the costs associated with continued use of ARC.net versus other available and suitable grant management systems. ARC Executive Director shall be provided with the recommendation(s) and will make a final decision.

We recommend that the Executive Director:

4. Review the results from recommendation 3 and provide/acquire appropriate funding to support the timely completion of ARC's grant management system; if the system is to be proprietary, additional in-house or contracted staffing may need to be included.

Executive Director will review proposed recommendations and take appropriate action.

We recommend that the Chief Information Officer:

5. Fix errors IX and X, noted in table 2, before proceeding to implement or modify any additional ARC.net features.

The Database Manager is authorized and has begun the process of hiring additional contractor assistance as needed to correct any bugs in the system including those disclosed in IX and X.

ARC management reserves the right to prioritize any task related to ARC.net as it deems appropriate.

We recommend the Director of Program Operations Division:

6. Appoint an employee to review and reconcile, on a weekly basis, data recently entered in the grants management system with original source documentation and in accordance with Program Operation Division's policies.

ARC management is concerned about data integrity. In an ongoing effort to ensure all ARC.net fields are correct, the Director of the Program Operations Division will specifically check project funding and the counties served on all projects with original source documentation. A member of the POD staff will further check all projects to ensure performance measures have been accurately and correctly entered into ARC.net. Performance measures will be reconciled for each fiscal year no later than December 31<sup>st</sup>. Further, once a project is closed, all project data fields will be changed from "edit" to "read only". Any change to a closed field will require the POD Director's approval.

We recommend that the Chief Information Officer:

7. If choosing to continue the development of the ARC.net system, create diagrams of the system and prepare system documentation detailing technical specifications, e.g., file structures, access methods, source code listings, and machine procedures, appropriate to allow IT professionals with no knowledge of the system, the ability to maintain the system and make major programming changes.

ARC management accepts this recommendation. The Database Manager is authorized to obtain additional contractor assistance to perform these tasks. He has already requested and received bids from contractors with knowledge of ARC's IT system. A contractor has been hired and begun preparing a User Guide for ARC.net. The goal is to complete the user and technical guides within six months.

We recommend that the Chief Information Officer, and Director, Program Operations Division:

8. Immediately and thereafter at least annually, review system access for all employees, based upon their job duties, and formally provide the Manager of Information Technology privilege assignments for each employee. Further, review employee separation from employment forms to ensure that employee access to the ARC.net system is discontinued in a timely manner.

ARC management accepts this recommendation to review system access. Separated employees already have their network, WebTA, and ARC.net accounts disabled. Former employees listed as having active accounts are still in the system for audit trail purposes; their accounts were disabled at separation and in a timely manner.

9. Develop a process to ensure that all employees managing grants, from all ARC departments are required to enter grant information into the grants management system, in accordance with policies and procedures established by the Program Operations Division which should be designed to ensure the completeness, quality and consistency of data.

ARC management accepts this recommendation. Beginning immediately all grants will be sent to the Project Control Officer for entry and all ARC departments will be directed to enter grant information as required by policies and procedures.

We recommend that the Chief Information Officer, and Director, Program Operations Division or his assignee:

10. Systematically review each ARC.net data entry screen to determine which data fields should be restricted and/or require supervisory approval, the type of restriction needed, and what event(s) would trigger that restriction

ARC management accepts this recommendation and will complete this task within 30 days.