

Louisiana Automated Support Enforcement System (LASES)

Independent Verification & Validation Assessment Review Report



**U.S. Department of Health and Human Services
Administration for Children and Families
Office of Child Support Enforcement**

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EXECUTIVE SUMMARY

As a result of failing to submit annual updates to its Advance Planning Document for the Louisiana Automated Support Enforcement System (LASES) project, the LASES project became subject to the mandatory provisions of Federal regulations at 45 CFR 307.15(b)(10). These provisions require that an entity independent of the State's Title IV-D agency and LASES project perform Independent Verification and Validation (IV&V) on the technical and managerial aspects of that project. To determine the scope and frequency of the required IV&V services needed on the LASES project, ACF conducted a site visit on June 21-22, 1999, performed follow-up staff interviews, and analyzed project documentation acquired during and subsequent to the on-site portion of the review. This report presents the findings and recommendations of the Federal OCSE's IV&V Assessment Review.

IV&V ASSESSMENT REVIEW - FINDINGS AND RECOMMENDATIONS

The State must move to immediately acquire IV&V services for the LASES project. The *IV&V Service Provider* who supplies these services shall initially review and make recommendations on the following areas of the LASES project's management, organization, development and reporting processes as described in Section 3 of this report:

- Stakeholder Commitment
- Project Management and Organization
- Project Personnel
- Quality Assurance
- Configuration and Requirements Management, and Documentation
- Project Planning, Reporting and the Advance Planning Document Process

IV&V services will be required until such time that Louisiana successfully implements and receives Federal certification of LASES for all requirements of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), as delineated in this report. The acquisition of this "IV&V Service Provider," either through a formal procurement of contract resources or Interagency Cooperative Agreement, will need to commence immediately. To assist the State in this regard, this report's recommendations are structured to present specific IV&V tasks that can be included in the Statement of Work of an IV&V Service Provider. **The IV&V Service Provider must supply all plans, reports of findings, and recommendations to ACF Central and Regional Offices at the same time that they are supplied to the State, as specified in 45 CFR 307.15(b)(10)(ii).**

IV&V SERVICE PROVIDER

The State must move to begin the identification of requirements for and formulation of a Scope of Work for ongoing IV&V services to the State's LASES project. It is incumbent on the State to begin the acquisition process for these services now to avoid any further schedule

delays. Therefore, the State should immediately pursue the identification of potential IV&V resources in-State. If such resources, independent of the State's Title IV-D and umbrella agency, cannot be identified then a contract procurement must be initiated. This report has been designed to provide the State with a series of initial recommendations that can be incorporated into a Scope of Work for the project's IV&V Service Provider. To further support the State's IV&V process, OCSE is committed to providing the State with technical assistance in the form of documentation review and recommendations, as needed, to assist the State in the acquisition/procurement of an IV&V Service Provider.

PRIOR APPROVAL

The Request for Proposals (RFP) and contract (or similar documents if IV&V will be performed by another State agency) must be submitted to ACF for prior approval, regardless of the cost or contractual arrangements. The IV&V services contract or agreement with a State agency must include the names and qualifications of key personnel who will actually perform the IV&V services. **For all IV&V activities, the State must submit an Advanced Planning Document Update (APDU) addressing in sufficient detail the IV&V activities and related costs eligible for Federal financial participation (FFP) at the regular (66 percent) matching rate.**

IV&V DURATION

IV&V must be performed at initial activation of the IV&V Service Provider contract or State agency agreement. Thereafter, the IV&V services must be performed semi-annually until such time that Louisiana successfully implements and receives Federal certification of LASES for all PRWORA requirements. ACF will periodically reevaluate the IV&V scope of work and frequency requirements of LASES based upon project progress or when one or more of the IV&V triggers occurs, as described in 45 CFR 307.15(b)(10)(i), such as failure to meet a critical Advanced Planning Document (APD) milestone.

INDEPENDENT VERIFICATION AND VALIDATION (IV&V) ASSESSMENT REVIEW REPORT FOR THE LOUISIANA AUTOMATED SUPPORT ENFORCEMENT SYSTEM (LASES) PROJECT

1. INTRODUCTION

The State of Louisiana's automated child support enforcement system, called LASES, was certified in January 1997, as meeting the requirements of the Family Support Act of 1988 (FSA). Since July of 1995, the State has failed to submit appropriate Annual Advance Planning Document Updates (APDU) to the Federal Office of Child Support Enforcement for review and approval. These Annual APDU's, necessary to identify the ongoing LASES project's management planning, scheduling, resources, budget, and cost-benefit for implementation of the FSA requirements, also now need to address the new automation requirements of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). As a result of the lack of Annual APD submissions, in accordance with Federal regulations at 45 CFR Part 307.15(b)(10), the need of an Independent Verification and Validation (IV&V) review of the LASES project was triggered. OCSE conducted the onsite portion of the IV&V Assessment Review on June 21-22, 1999. The purpose of the review was to: 1.) determine the current status of the LASES project; 2.) identify any areas of deficiency or concern in the project; and, 3.) determine whether IV&V services were needed on the LASES project, and if so, identify any deficiencies or concerns for incorporation to an appropriate scope of IV&V services for the LASES project. This report presents the findings and recommendations of the Federal OCSE's IV&V Assessment Review.

1.1 BACKGROUND

The State of Louisiana currently operates a Federally certified, comprehensive and statewide installed automated child support enforcement system called LASES (Louisiana Automated Support Enforcement System).

There has been uncertainty about the status of the LASES due to a number of factors, most notably, the lack of Annual APDU's describing the current status, accomplishments and projected workloads. The project had been considered completed as a result of its relatively early Family Support Act certification and entered a maintenance and operations mode. However, despite the subsequent passage of PRWORA, the LASES project essentially has remained in this maintenance mode relative to application development. This has had several undesirable effects: 1.) resource allocation to the project has not been strengthened despite substantial new development requirements with existing resources subject to competing priorities within the overall development organization; 2.) reduced executive level and

stakeholder commitment to the LASES project; and, 3.) a lack of Title IV-D program control of project activities and resources.

1.2 METHODOLOGY

On-site interviews with the State's staff from the Support Enforcement Services Division and the State's Division of Information Services (DIS) were held on June 21-22, 1999, at the LASES system development offices. The Federal assessment team consisted of:

| FEDERAL REVIEW TEAM REPRESENTATIVES | |
|--|---------------------------------------|
| Ron Logan | ACF/OCSE |
| Stan Friedman | ACF/Dallas Regional Office (Region 6) |
| Michael Enright | BAE Systems |

Personnel from the State's Department of Social Services' (DSS) Support Enforcement Services Division (SESD) and from the Division of Information Services (DIS), participated for the State. The staff interviewed included.

| LASES PROJECT STAFF | |
|----------------------------|-------------------------------------|
| Gordon Hood | LASES Project Director, SESD |
| Lisa Andry | LASES Deputy Project Director, SESD |
| Kathy Morris | LASES Training Coordinator, SESD |
| Ramona Schultz | Technical Team Leader, DIS |
| Kathy Howard | Supervisor, DIS |

Documentation on various aspects of the LASES development project were collected by the review team while on-site for further evaluation subsequent to that portion of the review. In addition, additional project management and resource documentation was, subsequent to the on-site review, requested and supplied by the State to OCSE for further analysis.

2. FINDINGS

The findings in this report are based on the discussions held with State staff during the site visit on June 21-22, 1999 and upon review of the LASES documentation. This report intentionally does not assess past performance except where applicable to current project status. The focus of this report is on what needs to be accomplished by the State to ensure future project success.

2.1 STAKEHOLDER COMMITMENT

Louisiana's LASES development project is currently in an ongoing enhancement and maintenance phase. During the onsite review Louisiana's Department of Social Services (DSS) and Support Enforcement Services Division (SESD) management expressed strong support for the project. However, though State support appears to exist from the program, executive level commitment was not in evidence from the project's system development agency, the Division of Information Services (DIS).

It is unclear from the interviews and from the project documentation analyzed, how stakeholders are involved in this project. In addition, stakeholders do not appear to possess decision execution and control responsibility for project priorities and resource participation. There did not appear to be a stable, ongoing effort to incorporate stakeholder participation in the design process, nor in the prioritization of software development tasks. Further, information feedback and follow-up from such iterative efforts as Joint Application Development (JAD) sessions with stakeholders was carried out in piecemeal fashion, and often not completed. Stakeholders to the project, particularly system users, should represent highly visible and proactively involved information gathering and decision making resources. Any resultant LASES system must inherently serve the needs of stakeholders to be effective. However, at this time, the involvement of potential LASES stakeholders, beyond that of identifying operational problems, some business requirements definition, and testing, is nebulous.

2.2 PROJECT MANAGEMENT AND ORGANIZATION

DSS's management structure for the LASES project does not have clear lines of reporting and authority, and lacks ultimate control by the program office of the majority of the application development resources. For example, it is not clear who on the project has the final authority to allocate resources to the project. Program staff assigned to LASES development effort include the Director and Deputy Director, one technical supervisor, and three staff who do testing. In addition, some small number of financial staff assist in the project, in an ad-hoc basis, in their given areas of financial management expertise. Though, the review found that the IV-D program funds roughly twelve development staff within the DIS (the organization responsible for LASES software development), these staff do not report to the program office, and more importantly, lack close coordination of activities and performance objectives with their counterparts in the SESD. Further, the program office does not have input into the selection criteria (best candidate)

or position definition criteria (need for programmers, database administrators, systems analysts, etc.,) for those staff, nor does the DIS appear to partner with the SESD to set workload and task priorities for those development staff.

Our review also found that the organizational lines of authority are not clearly defined in an established Project Management Plan for the project, and that a clear chain of authority for task definition and monitoring, as well as for software design, development and acceptance between the IV-D agency and DIS was lacking.

Though the SESD retains the authority to cancel the project, though there appears to be no alternative vehicle in place (procurement master contract, State bidders list, major contract solicitation) to the use of the DIS. Though the LASES system must undergo concurrent development to meet federal PRWORA deadlines, while continuing to develop the software enhancements necessary to meet the remaining conditions on its FSA certification, the current LASES project does not appear to have a standard, well-defined management organization nor employ a structured project management methodology to measure or assure project milestones are identified and deadlines achieved.

2.3 PROJECT PERSONNEL

As stated in section 2.2 *Project Management and Organization*, the LASES development project is supported by twelve staff in the Division of Information Services (DIS). Our review could not find any documentation, nor could State staff interviewed identify any resource estimation studies that comparatively analyzed workload indicators to existing personnel resource commitments. Contributing to the problem of the unknown workload factors, and thus a lack of manpower requirements for completion of LASES development, are incomplete and, in some cases, yet-to-be developed requirements definitions for the PRWORA enhancements to the LASES system. Without such a completed requirements definition and the subsequently related programming specifications, the creation of comprehensive resource and cost estimations leading to the formulation of project work plans, schedules, and budgets cannot be carried out. Though it may be possible that the current software development team structure may indeed succeed in completing all LASES enhancements, it appears highly unlikely that the Federal deadlines can be achieved.

Reinforcing the probability of doubt regarding the current development team's capacity is the lack of an analysis utilizing workflow indicators and a structured resource and cost estimation methodology. Nationally child support projects of similar scope utilize the numbers of staff employed by the LASES project to primarily conduct routine maintenance and normal operations. Separate staffing levels equal to or exceeding those of the current LASES project are then separately employed in new requirements definition, systems analysis and programming.

With regard to the management capabilities in the LASES project, our review found no structured management tools currently being employed for labor estimation or workload balancing. Though staff interviewed indicated that the use of a project management software

(MS Project) was under consideration, our review found few staff trained in its comprehensive use, and no available staff assigned to the project that could support maintaining the currency of project management data and reporting.

Should the State determine the use of supplemental contract staff to be of value, there are currently an insufficient number of State personnel assigned to project to support effective contractor oversight and managerial analysis. In addition, State staff assigned to the project from the SEDS, necessary to conduct requirements analysis and business modeling of future programming specifications, appears wholly insufficient to the level of effort for a system of the size and complexity of LASES, particularly in light of the substantial remaining work to accomplish (i.e., elimination of FSA88 conditions; PRWORA certification; and, end-user PCR, performance tuning, and routine operational maintenance tasks.)

Finally, given the need for staffing, both from a development team, business analysis, testing and implementation activity (training, rollout and helpdesk) standpoint, our review found no evidence in current documentation of a staffing plan describing how supplemental personnel resources are to be obtained, how they're to be funded, their position types/descriptions, nor a schedule for their acquisition.

2.4 QUALITY ASSURANCE

There are currently no dedicated Quality Assurance (QA) support staff assigned to the LASES project. QA activities appear to be a shared responsibility from a project organization perspective between the program and systems development agencies, and such requirements are essentially made a part of personnel job descriptions. State staff interviewed for this review agreed that QA services, beyond the informal processes conducted on the project, were necessary. However, at the time of the review, no formalized QA organization, structure, or process existed in support of the LASES project.

2.5 CONFIGURATION AND REQUIREMENTS MANAGEMENT, AND DOCUMENTATION

Again, coordination between the LASES project's disparate program and system development teams is a primary concern in this area. It was evident from the review that the State did not have a well mapped set of requirements for the LASES system. In many instances, requirements for upcoming changes to meet the deadlines imposed by the PRWORA changes have not yet been identified, written, and may not be finalized and documented in time for LASES development to meet those deadlines. QA staff, as recommended by this report, can be instrumental in developing and monitoring the processes for requirements management.

Another concern in the area of requirements management appears to be the possibility of “requirements creep”, where new requirements and modifications to existing requirements are constantly added on with little or no attention to the impact on performance, schedule, cost, or

workload indicators. On a project of this size and complexity, it is imperative to define and document the system requirements early in the development phase and to get agreement and approval from all shareholders in the project on the system's initial, foundation requirements. In addition, a stringent configuration management process must be put in place to limit changes to the system requirements to those items that are required to meet State and Federal performance requirements. Finally, a process needs to be put in place to trace system requirements through the various phases of the system development, from requirements definition to design, code, test, and training. QA staff should be an essential factor in setting up and monitoring these processes. A comprehensive documentation effort is also needed on the LASES project in order to bolster the current operation, application, test and maintenance documentation such that effective quality assurance services, and thus requirements traceability can be performed. Our review found that significant portions of the LASES application's software documentation was out-of-date, as well as substantial portions of the design documentation. In addition, we could not find a unified data repository for documentation maintenance and control. Data documentation was, as many activities in the LASES project, a fractured responsibility distributed unequally among project members, some of whom were not adequately skilled in its maintenance, nor formally accountable for it upkeep. A consequence of this disparate documentation maintenance process was the identification of multiple versions of the same software and requirements documentation among project team members - a situation that could be disastrous in implementing changes to such a critical production environment as LASES.

2.6 PROJECT PLANNING, REPORTING AND THE ADVANCE PLANNING DOCUMENT PROCESS

Currently, LASES does not have a unified project management structure, and does not support a unified project reporting mechanism. The LASES project did not appear to make use of project management and reporting software tools. Future attrition of experienced LASES staff will only further hamper corporate memory and knowledge management on the project. Due to a lack of effective, comprehensive project management reporting on the LASES project, historical documentation (project plans, schedules, budgets, etc.) on the project also appears to be incomplete and may not be recoverable or capable of re-creation. This is significant in that the lack of an approved Annual Advance Planning Document Update on the LASES project has placed the project's Federal funding in jeopardy. Federal statute, and by extension, regulations at 45 CFR Part 307 require the creation, maintenance and updated submission to the Administration for Children and Families, Office of Child Support Enforcement of *Annual Advance Planning Documents*.

The last AAPDU submitted by the State of Louisiana was dated July 18, 1994. Almost 54 months have transpired since the project's next (July 1995) AAPDU was due to ACF/OCSE for review and approval. Though the AAPDU does not require "prior" Federal approval of approvable project costs, the serious deficiency on the part of the State of Louisiana to identify its project activities and related costs, including any procurements in support of the project, is placing all of the project's costs from July 1995 to date in danger of disallowance. In addition, the loss of Federal funding due to project suspension now appears possible in light of the lack of

a currently approvable AAPDU. Finally, the State has yet to request, or be granted approval of, any funding under the State's allocation of PRWORA enhanced (80 percent) federal financial participation. Enhanced funding is only available through submission of an approvable AAPDU. **The AAPDU's format and content requirements can be found in the U.S. Department of Health and Human Services' publication, State Systems APD Guide dated September 1996. Additional requirements are contained in an supplemental guidance document issued in march of 1999, entitled, Addendum to State Systems APD Guide for Child Support Enforcement Systems.**

3. RECOMMENDATIONS

This section presents the recommendations of the Federal assessment team after analysis of existing project documentation and interviews with project staff during and subsequent to the State of Louisiana's Automated Support Enforcement System (LASES) project's IV&V Assessment Review.

3.1 INDEPENDENT VERIFICATION AND VALIDATION (IV&V)

Based upon our discussions with State staff during this review, as well as our subsequent documentation analysis, it is recommended that the State acquire Independent Verification and Validation (IV&V) services in accordance with Federal regulations at 45 CFR Part 307.15(b)(10). These services can be obtained from a contractor via a Request for Proposal (RFP) or from an independent State agency. If a contractor is used, the RFP and contract must be submitted to ACF for prior approval, regardless of the cost or thresholds. The contract must include the names, experience, and skills of key personnel who will actually perform the IV&V analyses. If IV&V is performed by another State agency, similar, equivalent documentation must be submitted, usually taking the form of a detailed Interagency Cooperative Agreement. The State must then submit an Advance Planning Document Update (APDU) describing in sufficient detail the prescribed IV&V activities, work products, and costs eligible for Federal financial participation.

This IV&V activity should describe two levels of IV&V services. The first level will consist of periodic reviews as specified below to monitor the overall status and management of the project's development effort. Many aspects of this level of IV&V services are described in this report, and will be further defined by the State's own IV&V Service Provider.

The second level of IV&V services are full technical reviews of various facets of the system's software and hardware operation and performance, and documentation maintenance, as needed. Each of these levels of IV&V services is discussed in detail below. **In each case, the IV&V Service Provider must supply all plans and reports of findings and recommendations to OCSE Central and Regional Offices at the same time that they are supplied to the State, including draft documents submitted for comment and review.**

3.1.1 PERIODIC IV&V REVIEWS

Periodic IV&V reviews will be required to ensure the project is on schedule and that requirements are being met for Federal certification. The first of these reviews will focus on those findings contained in this report, namely, the State's project management plan and overall organizational structure, shareholder commitment, quality assurance requirements, configuration and requirements management, documentation needs, and Implementation Advance Planning Document (IAPD) process. Subsequent IV&V reviews will continue the monitoring of work efforts begun as part of the initial

assessment review. Subsequent reviews will need to be periodically conducted every 6-8 months. The frequency and task level of these reviews will need to be reported in the AAPDU's Project Management Plan section describing the project's overall *IV&V Management Plan*. More specifically, these periodic reviews will require the IV&V Service Provider to assess system development in areas including, but not limited to, the following:

- Analyze project management and organization, evaluate project progress, resources, budget, schedules, work flow, reporting and contractor oversight.
- Review and analyze project management planning documents.
- Review and analyze project software development documents.
- Review and analyze processes to ensure they are being documented, carried out, and analyzed for improvement.
- Monitor the performance of the QA contractor by reviewing its reports and performing spot checks of system documentation.
- Assess and recommend improvement, as needed, to assure continuous stakeholder buy-in, support and commitment, and that open pathways of communication exist among all stakeholders.
- Assess and recommend improvement, as needed, to assure lines of communication between vendor staff and State management are in place and engaged.
- Assess and recommend improvement, as needed, to assure appropriate user and developer training is planned and carried out.
- Assess and recommend improvement, as needed, to assure establishment and maintenance of a data center, including data center input to the project regarding operational and maintenance performance of the application.
- Develop/update a risk management plan and conduct periodic risk analyses to identify, analyze, and mitigate risks.
- Review and analyze system capacity studies.
- Review system hardware and software configuration and report on any compatibility and obsolescence issues.
- Assess and recommend improvement, as needed, to assure software testing is being performed adequately through review of test plans or other documentation and through direct observation of testing where appropriate, including participation in and coordination of peer reviews.
- Develop performance metrics, which allow tracking of project completion against milestones set by the State.

- Report on the State's efforts to address the findings and recommendations from this IV&V Assessment Review Report.

Some of the above tasks may be assigned to the State's future QA provider. In that case, the IV&V provider would be responsible for ensuring these tasks are being performed through the review of QA products and reports.

3.1.2 FULL TECHNICAL IV&V REVIEWS

In addition to the periodic reviews discussed in the previous section, the State should consider employing full technical (software and hardware) IV&V reviews. These reviews could be prompted by major milestones in the project's development cycle such as program version turnover or completion of a test phase. A full technical review may also become necessary as a result of significant findings during the periodic IV&V reviews, such as a need to assess application performance or system capacity issues. These reviews may also be initiated by the State to provide assurance to executive management that the project's code base, documentation, etc., is in good shape and to identify and address any problems before they become unmanageable. Full technical IV&V reviews may include, but not be limited to the following areas of review for remediation and elimination of deficiencies:

- Perform a detailed review of the system documentation (Requirements, Design, Training, Test, Management Plans, etc.) for accuracy and completeness.
- Perform a detailed review of the software architecture for feasibility, consistency, and adherence to industry standards.
- Inventory and review the application software for completeness and adherence to programming standards for the project.
- Review the traceability of system requirements to design, code, test, and training.
- Analyze application, network, hardware and software operating platform performance characteristics relative to expected/anticipated/contractually guaranteed results and industry standards/expectations.

3.1.3 IV&V MANAGEMENT PLAN

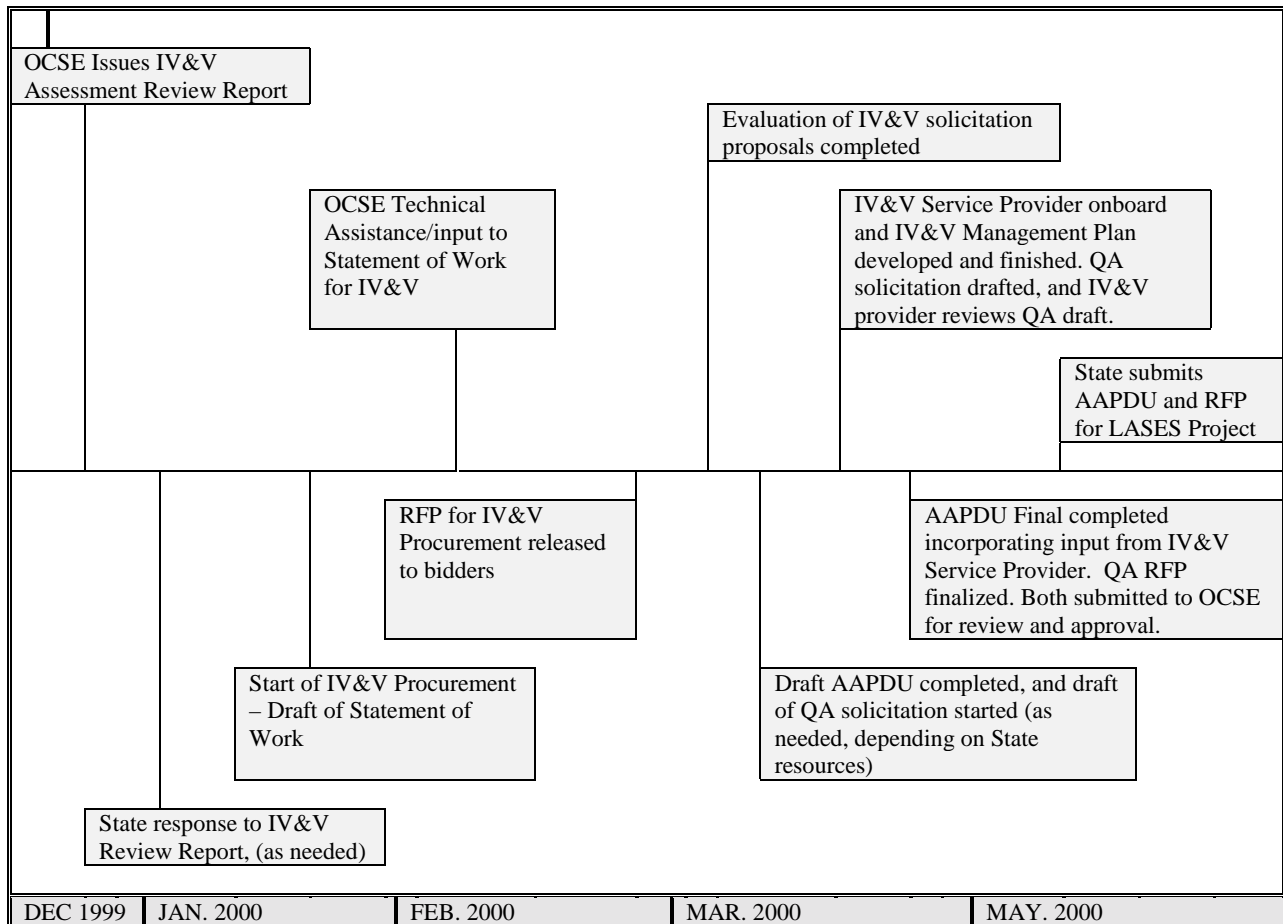
Many of the recommendations contained in this report are presented to the State in the form of general requirements for the State to incorporate into what this review refers to as an "IV&V Management Plan¹." The plan should be one of the first deliverables created by the State in collaboration with its IV&V Service Provider. The recommendations in this report are intended to assist the State in the creation, and refinement of an acquisition/procurement document's Scope of Work for the eventual solicitation of an

¹ The need for an IV&V Management Plan, beyond its use as a basis for a Scope of Work for an IV&V Service Provider (whether contract or State agency) is as a detailed plan of action for periodic independent reviews of the LASES project's critical development and implementation phase procurements, milestones and deliverables. In addition, it serves as vital documentation to the State's forthcoming Implementation Advance Planning Document Update and Corrective Compliance Plan.

IV&V Service Provider. The IV&V Management Plan will then be refined and finalized based upon the IV&V Service Provider's detailed Technical Proposal to the State's IV&V solicitation (e.g., Scope of Work in a Request for Proposal) document. If the IV&V Service Provider is to be a State agency, the IV&V Management Plan, incorporating these recommendations, will be jointly constructed as part of an interagency agreement defining the roles and responsibilities between the Title IV-D agency and the State agency serving as the IV&V Service Provider. OCSE is committed to providing ongoing technical assistance to the State relative to the creation and finalization of a comprehensive Statement of Work for the acquisition of a IV&V Service Provider, as well as in consultation and coordination with the State on all aspects of project management and organization.

Table 2. presents an estimated timeline representing an appropriate order for the major milestones in the start-up of LASES project IV&V contracting, from the issuance of this report through to the final submission for Federal review and approval of an Annual Advance Planning Document Update (and if needed, a Request for Proposal for Quality Assurance of LASES.).

Table 2. Estimated Critical Milestones Schedule in LASES IV&V Contract Start-up



3.2 STAKEHOLDER COMMITMENT

With Louisiana's LASES development project in an ongoing enhancement and maintenance phase, continued commitment to the project from the State's DSS and IV-D management is vital. Of particular concern to our review, was that although program support exists, an enhanced level of executive commitment is needed from the project's system development agency, the Division of Information Services (DIS).

The IV&V Service Provider, during initial assessments, should conduct interviews with stakeholders, and analyze the project's existing organizational and management structures to determine exactly how, and to what degree LASES stakeholders are involved in this project. Based upon this analysis, the IV&V Service Provider should then make recommendations regarding the following areas:

- Management processes for coordination and control by the SESD of software design, development and implementation tasks and activities;
- Management processes providing for SESD control of project decision-making, execution, and prioritization of software development tasks;
- Management processes providing for SESD input and coordination in determining resource assignment to and participation in software development tasks;
- Management processes for the collection of project documentation and information, its dissemination, review, and feedback to and from stakeholders; and,
- Management processes to assure SESD control and involvement, prior to the installation to the LASES production environment, of system changes and revisions.

The review team also recommends the IV&V Service Provider assess the current state of stakeholder involvement relative to the membership and responsibility afforded to the LASES project's Steering Committee and to its Users Group relative to overall project direction, and to day-to-day project operations. Should additional involvement be deemed appropriate, the IV&V Service Provider should identify potential needs, requirements and qualifications for membership to the project's Steering Committee and Users Group.

3.3 PROJECT MANAGEMENT AND ORGANIZATION

The State must consider methods to ensure effective lines of communication, authority and cooperation exist between the LASES project's various stakeholders within its Department of Social Services (DSS), namely the SESD and DIS. The State must also take measures to ensure staff hired to work on LASES development remain fully dedicated to that effort through to project completion. Bringing experienced Quality Assurance resources onboard that report directly to the SESD may help to some degree through the enhanced monitoring of the use of system resources (in this case, personnel), as well as in helping determine appropriate staffing levels through improved resources estimates. We also feel other measures should be considered by the State during the planning phase of the LASES project. Measures such as a revised Interagency Agreement between the SESD and DIS, bringing the project's two management

entities together under a unified management structure, or other similar measures as determined appropriate by the State. These lines of authority and revised responsibility will need to be clearly defined in the State's IAPD. To that end, the IV&V Service Provider must assess that the lines of authority between the SESD and DIS LASES project teams are clearly defined and that communications processes between the two entities is effective.

In order to ensure clear resource estimating and allocation to project tasks, the IV&V Service Provider should review and assess all existing project management plans, documentation and data gathering and analysis methodologies for adherence to State standards, and for their ability and usefulness to the project's management team. In those instances where State resource estimations and task scheduling appear deficient, the IV&V Service Provider should make recommendations for improvement, as needed. The IV&V provider must also assess that staffing resources are being properly utilized, in accordance with the Project Management Plan (PMP). Further, the IV&V provider should assess and determine that project management planning and tracking (through the PMP) is continuously updated in accordance with State-defined criteria.

3.4 PROJECT PERSONNEL

The IV&V Service Provider should assess the LASES project's current resource and cost estimation methodologies and tools, and make recommendations regarding their use, as appropriate. This assessment should include any project management tools the State may anticipate using on the project, and their suitability to the need for cost and resource estimation. In addition to acquiring the Independent Verification and Validation services identified in Section 3.1, it is recommended that the State perform a detailed assessment of its need to procure additional technically qualified staffing resources (Contract or State staff) to support the completion of the LASES software development process, including Project Management Plans (PMP), Configuration Management (CM), and Quality Assurance (QA), and documentation needs, as identified in this report. The IV&V provider should assess and make recommendations on the procurement activities associated with such staffing solicitations, as well as on the management of such solicitations. The milestone steps required to procure these staffing resources should be included in the State's IV&V Management Plan submissions discussed in Section 3.1.3, as appropriate. These milestone steps must also be included in the State's Annual APDU submissions.

The IV&V provider should also conduct an assessment of the State's current and revised staffing plans and make recommendations for its improvement relative to allocation of resources to task areas (design, programming, test, etc.) as appropriate.

In addition, use of the project's Quality Assurance vendor in a supplemental role of providing ongoing, day-to-day project monitoring, management reporting, and cost and activities tracking, including the use of standardized project management software tools would be well-advised.

3.5 QUALITY ASSURANCE

The State must ensure that a Quality Assurance (QA) organization is established to monitor the fidelity of all defined processes in all phases of the LASES project. The State must also ensure that the QA organization develop and implement a formal QA plan, and that associated procedures are also developed and implemented for all phases of the project. The QA organization is not intended to eliminate the State's current practices for individual personnel to participate in QA activities. Instead, it should formalize and monitor these practices.

The IV&V Service Provider should:

- Evaluate and make recommendations on the project's QA plan, procedures and organization;
- Evaluate the QA organization to verify that the organization has appropriate levels of integration within the project and that the QA organization appropriately monitors the fidelity of all defined processes in all phases of the project; and
- Provide recommendations to ensure that formal review and sign-off processes are used to monitor the quality of all products produced by the project, including the use of periodic self-evaluations to improve the process.

The State should begin the procurement process for the Quality Assurance (QA) vendor immediately so the QA personnel can provide support during the substantial remaining work for completion of the LASES project. QA support can also include support in writing the Annual APDU's, the writing of RFP's for development staff, developing the processes and associated process documents for management of the project, determining the requirements for lines of authority between the SESD and LASES project development team in DIS, and developing the Configuration Management Plan for the project. The State's AAPDU must provide a description of the project's organization which shows planning for a QA organization which reports to the State's Project Director. The AAPDU must also specify that the QA provider will be independent from the IV&V provider. Finally, in accordance with our recommendations regarding use of the QA vendor to support project management tracking and reporting, the QA vendor, if brought aboard the project timely, should be tasked with considerable documentation compilation and reporting tasks directly supportive of the AAPDU process.

3.6 CONFIGURATION AND REQUIREMENTS MANAGEMENT, AND DOCUMENTATION

The IV&V Service Provider should verify that all software requirements can be traced (backward and forward) through the design, code and test phases to ensure that the system performs as intended and contains no unnecessary software elements. For those areas where weaknesses are identified, the IV&V Service Provider should provide detailed recommendations for improvement. These recommendations should, at a minimum and as required, include such aspects as organizational control, resources, and process models. The feasibility of a requirement traceability matrix or similar requirements management method should be evaluated

and instituted by the State and verified by the IV&V Service Provider. The IV&V Service Provider should verify that LASES requirements are under formal configuration control. The coordination of system requirements between the SEDS and LASES project team in DIS must be considered a high priority in the analysis to be conducted by the IV&V Service Provider during their initial IV&V Assessment Review for the LASES project.

During the periodic reviews, the State's IV&V provider should monitor requirements management for the LASES project and coordination of requirements between the SEDS and LASES development team. The IV&V provider must also monitor that processes for Change Management and Requirements Traceability are in place and are being utilized by all project components. The State must also ensure that a formal Configuration Management (CM) plan and associated procedures are developed and implemented for the LASES project. The IV&V Service Provider should:

- Review and evaluate the CM plan and procedures associated with the LASES development process;
- Make recommendations to manage and ensure that all critical development documents, including but not limited to those associated with requirements definition, design, code, test, training, etc., are developed and maintained under an appropriate level of configuration control;
- Make recommendations for appropriate processes and tools to manage system changes, including formal logging of change requests, and to ensure the review, prioritization and timely scheduling of maintenance actions; and,
- Review the use of CM information (such as the number and type of corrective maintenance actions over time) by project management for trend analysis or other appropriate management indicators.

3.7 PROJECT PLANNING, REPORTING AND THE ADVANCE PLANNING DOCUMENT PROCESS

The IV&V Services Provider should, as part of their creation of the IV&V Management Plan, define for the State certain metrics for performance measurement on the LASES project. The performance metrics should then be routinely monitored by the IV&V provider to determine success against predetermined indicators, e.g., meeting schedules of milestones, quantities of software redesigns and rework, numbers of errors found in test, numbers of programming change requests (PCR's), SLOC (structured lines of code) production/time or per person, etc. To support such performance measures, the IV&V provider should recommend improvements to the project management structure and organization, and to the implementation and use of a unified project reporting mechanism, including use of project reporting software tools.

Of critical importance for the project will be the creation of the Annual Advance Planning Document Update (AAPDU). The IV&V provider should be tasked with the document's review and overall analysis in a quality assurance role. In addition, the IV&V provider should assess all of the State's AAPDU data analysis and collection processes, including fiscal, budget, resource

reporting and estimating and project planning capabilities, and make recommendations for their improvement. and ongoing efficacy. Finally, the IV&V provider should be tasked with a final AAPDU review, relative to assuring that the document meets all Federal regulations at 45 CFR Parts 95 and 307, and especially with regard to the AAPDU's format and content requirements found in the U.S. Department of Health and Human Services' publication, State Systems APD Guide dated September 1996, as well as the additional child support APD requirements contained in the supplemental guidance document, Addendum to State Systems APD Guide for Child Support Enforcement Systems.