INDIANA SUPPORT ENFORCEMENT TRACKING SYSTEM (ISETS)

INDEPENDENT VERIFICATION & VALIDATION ASSESSMENT REVIEW

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 missing the October 1, 1997 deadline for achieving statewide installation and operation of a comprehensive automated Child Support Enforcement System (CSES) meeting all of the requirements of the Family Support Act of 1988 (FSA88), the Indiana Support Enforcement Tracking System (ISETS) project became subject to mandatory provisions of Federal regulations at 45 CFR 307.15(b)(10). These provisions require an entity independent of the State Title IV-D agency and of the ISETS project management structure to perform Independent Verification and Validation (IV&V) of the ISETS project. The Administration for Children and Families (ACF) has the authority under Action Transmittal OCSE-AT-98-26 to grant very limited exceptions to allow a State agency independent of the child support agency and its development project to provide these IV&V services. A preliminary IV&V assessment of the ISETS project was conducted by the Federal Office of Child Support Enforcement (OCSE) on October 26-27, 1999. The purpose of the assessment was to determine the extent of IV&V services required on the ISETS project. This report presents the findings of our assessment review.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

SCOPE OF REQUIRED IV&V SERVICES

The State must move to immediately acquire IV&V services for the ISETS development project. The IV&V provider who supplies these services shall review and make recommendations on the following areas of the ISETS development process as described in Section 3 of this report:

- Project Planning
- Configuration Management
- Requirements Management
- System Security
- System Capacity

IV&V services will be required until such time that Indiana successfully implements and receives Federal certification of ISETS 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 ISETS project. It is incumbent on the State to begin the acquisition process for these services now to avoid further schedule delays. Therefore, the State should immediately pursue the identification of potential in-State IV&V resources. If these resources, independent of the State's Title IV-D and its umbrella agency, cannot be identified then a contract procurement effort 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 is 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 Advance Planning Document Update (APDU) addressing in sufficient detail the IV&V activities and related costs eligible for Federal financial participation (FFP) at the applicable 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 Indiana successfully implements and receives Federal certification of ISETS for all PRWORA requirements. ACF will periodically reevaluate the IV&V scope of work and frequency requirements of ISETS 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 Advance Planning Document (APD) milestone.

INDEPENDENT VERIFICATION AND VALIDATION (IV&V) ASSESSMENT REVIEW REPORT FOR THE INDIANA ISETS PROJECT

1. INTRODUCTION

The State of Indiana missed the October 1, 1997 deadline for achieving Federal certification for system modification to meet the requirements of the Family Support Act of 1988 (FSA88). ACF, as a result, conducted an IV&V Assessment Review including an assessment of the current documentation of the ISETS system, as well as historical data on the project. The purpose of the assessment was to enable ACF to make recommendations on the extent of the IV&V services that the State will be required to obtain. This report provides the results of that assessment.

1.1 BACKGROUND

ACF conducted a site visit to help determine the required scope of IV&V for ISETS on October 26-27, 1999 at the ISETS development office in Indianapolis, Indiana. The IV&V assessment team consisted of:

Ron Logan	ACF/OCSE/OAPO/DSS
Stan Slominski	BAE SYSTEMS

Personnel from the Indiana Family and Social Services Administration (FSSA) and ISETS contractor staff participated for the State. The State and ISETS contractor (*) representatives consisted of:

	Joe Mamlin	Deputy Director FSSA
	Steve Blackburn	State Project Manager, FSSA
	Lucy Mikula	Child Support Bureau
*	Carolyn Keith	RGS [Management / QA Contractor], ISETS Project Director
*	Darrell Gordon	RGS [Management / QA Contractor], Consultant
*	Loyd Kintz	RGS [Management / QA Contractor], Consultant
*	Sharon Russell	CBSI [Maintenance / Modification Contractor], Manager
*	John Thomson	CBSI [Maintenance / Modification Contractor], Deputy Manager

1.2 METHODOLOGY

Prior to the assessment review a list of IV&V related materials and questions were forwarded to the ISETS Project Director, Ms. Carolyn Keith, to assist ISETS project staff in understanding the types of items and information the IV&V assessment team would be looking at during its visit. The assessment consisted primarily of a presentation by the State and ISETS contractor staff, with a question and answer period for each of the following major areas of interest: project management, project personnel, subcontractors and external staff, training and documentation, process definition and product standards, quality assurance, configuration management, requirements management, system security and system capacity. State and ISETS contractor staff provided more detailed information on these primary areas during the discussions.

A list of documentation and historical data needed to support areas of discussion during and after the review was generated, finalized and agreed to by the State and IV&V assessment team during the on-site review. This list of documents, forwarded to the Office of Child Support Enforcement (OCSE) in hardcopy format and on Compact Disk (CD) for examination, is identified in Table 1. ISETS Documents Reviewed. Findings and recommendations resulting from the on-site visit and subsequent analyses of all forwarded documentation are included in Sections 2 and 3, respectively of this report.

Table 1. ISETS Documents Reviewed

No.	Document Description	Originator	Document Date	Date Provided	IV&V Reqmt
1	ISETS IV&V CD (1 copy)	ISETS	October 26-27, 1999	11/10/99	All
2	ISETS IV&V Documentation Volume 1, 2 and 3 (1 copy ea)	ISETS	October 26-27, 1999	11/10/99	All
3	ISETS IV&V Additional Documentation	ISETS	NA	11/10/99	1.1.1, 1.3.2 to 1.3.5, 2.3.1, 3.3.1, 3.5.2, 3.6.1, 3.6.3, 3.7.4, 3.8.3, 4.2.3, 4.3.1, 4.3.2, 5.1.5, 7.1.6, 8.1.5, 9.1.7, 9.2.1, 9.3.5
4	KPMG Technical Evaluation of ISETS • Functional Assessment • Technical Assessment • Business Process Impact Assessment	KPMG LLP	June 1999	8/4/99	NA

2. FINDINGS

The findings in this report are based on the discussions held with State and ISETS contractor staff during the site visit on October 26-27, 1999 and upon review of the ISETS 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 PROJECT PLANNING

Risk management planning is essential for all software development efforts. It is especially critical for State Child Support Enforcement System (CSES) projects that have missed the October 1, 1997, deadline for achieving statewide installation and operation of a comprehensive automated CSES as required by the Family Support Act of 1988. In its response, the State has indicated that risk management was conducted throughout the development project from 1992 through 1996. Risks were identified in monthly status reports submitted to FSSA, Director of the Office of Information Technology and the Child Support Bureau (CSB) Deputy Director. FSSA developed risk mitigation strategies and operationalized these strategies for both the system development effort and the user community environment. Currently, risk is assessed at appropriate stages of the life cycle process by the CSB and appropriate actions are taken to eliminate or minimize risk. Such actions reflected in design decisions, in scheduled project plans, and in weekly status reports.

Previous and current project risk management, as described above, indicates some effort by the State in this critical area of ISETS project management. However, from the IV&V review documentation provided it is unclear what the State's overall risk management strategy/plan has been and is currently to identify, categorize, analyze and mitigate all current and future ISETS project risks. Sufficient information was not available for review to make a determination of the project's risk management efforts during the 1992 through 1996 time period. Documentation to support current ISETS risk management efforts also did not clearly demonstrate or identify an overall risk management strategy/plan to identify, categorize, analyze and mitigate current and future ISETS project risks. A formal project Risk Management Plan, procedures or similar documentation was not available for review.

2.2 CONFIGURATION MANAGEMENT

Configuration Management (CM) involves identifying the configuration of the product (software/hardware and associated documentation), systematically controlling changes to that configuration, and maintaining its integrity and traceability throughout the system life cycle. The documented and approved project Configuration Management Plan, generally created during project planning, is used as the basis for performing the CM activities

The ISETS Project does not have a formal/documented Configuration Management Plan. The documentation provided for review (ivv-031 through ivv-037 and ivv-039) **does not qualify as a CM plan**. Based on a review of the provided documentation, it appears that ISETS addresses some of the elements of CM but not with a comprehensive plan for implementation of the CM process. The State has indicated (IV&V Question 3.5.1 response) that ISETS System source code and JCL are managed by a comprehensive proprietary configuration management utility, which ensures that code migration through the development and testing environments is carefully controlled. This utility in and by itself, meets only some the requirements of CM as it pertains to the configuration management of system code.

The State forwarded the work products of the technical evaluation of the ISETS conducted by KPMG LLP[1]. Reviewing the KPMG Technical Assessment Report (#2), it was noted (page 8) that *"ISETS project staff indicated that there was not a comprehensive configuration management system in place."*

2.3   REQUIREMENTS MANAGEMENT

Good requirements management/traceability makes it easier to determine and verify that all project requirements have been developed and implemented. It also makes it easier to determine if a program change has been completely implemented, and to determine the testing and documentation impact of proposed changes.

The State provided a set of Federal Case Registry (FCR) documents to demonstrate how all the stages of the ISETS development build upon user requirements. The sample documentation included the following FCR Response Process related documents: Requirements document, Refined Requirements document, General Design document, Test Plan, Test Scenarios, Migration to System Test documentation (migration move sheet, implementation checklist, migration checklist), and Re-migration of corrections to coding errors discovered in System Test (and eventual Migration to Acceptance Test) documentation.

Although the documents forwarded for review did in fact adequately trace the FCR Response Process, it is unclear how the project can verify that all ISETS system requirements have been allocated to either a software (SW) or hardware (HW) subsystem and that all software requirements have been implemented and successfully tested for ISETS. A formal, CM controlled, requirements allocation document or other comparable document was not available to demonstrate how the vast number of ISETS requirements (Federal, State, Local, etc.) are allocated to the key SW/HW components of Indiana's statewide CSES and how implementation of these requirements is confirmed/verified. The following observations were noted during review of the FCR documents:
- FCR Doc #2 (Refined Requirements Document)
   Document missing required Process Owner sign-off and date.

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[1] KPMG Reports on ISETS: (1) Functional Assessment, (2) Technical Assessment, and (3) Business Process Impact Assessment, dated June 1999

- FCR Doc #3 (General System Design Document [GSDD])
  Document missing required approval signatures (2) and dates.

2.4 SYSTEM SECURITY

The State initially indicated (IV&V Question 3.7.3 response) that the *"State Board of Accounts must periodically perform a risk analysis to measure the vulnerability of the ISETS system in regard to fraud, theft or loss of data."* In IV&V follow-up documentation[2], the State noted that the *"State Board of Accounts does not perform risk audits. They only perform county management audits."* With no additional supporting information provided for review on this security issue, it is assumed that periodic risk analysis of ISETS security (i.e., vulnerability of the system in regard to fraud, theft or loss of data) may not currently be addressed.

2.5 SYSTEM CAPACITY

The State indicated that the ISETS Main Frame was currently providing adequate response for online users. However, the overnight batch processing window was becoming smaller due to additional counties becoming financial which increased the amount of data to be processed each night.

All 93 ISETS AS/400 systems had recently had upgrades installed by IBM. These upgrades were to increase processor speed, additional main memory and additional disk capacity. The upgrades were sized to meet current and future case loads projections for each county. The project considered all counties adequately configured at the time of the IV&V Review. It was expected that these upgrades would allow adequate capacity through the year 2000.

Plans were in-progress to evaluate new AS/400 RISC architecture for follow-on system replacements. The testing for that platform was tentatively scheduled to begin in the 1st quarter 2000. AS/400 RISC architecture was planned to begin implementation in the 3rd quarter 2000. This platform will be configured to provide processor, memory and disk capacity for growth into the year 2003. They will also include enhanced RAID protection for county data in disaster situations as well as additional remote system management capabilities, such as a remote power on facility. The OS/400 software will be the latest version of the RISC based operating system.

At the time of the IV&V Review the AS/400 network consisted of 88 AS/400s connected via 56 Kbps X.25 Switched Virtual Circuits and 5 counties connected via Frame Relay. The plan is to convert the 88 counties to Frame Relay by mid-year 2000 to provide dramatic capacity and performance improvements to the ISETS network. This is expected to improve not only month end and nightly batch downloads but also APPC Store and Forward transmissions that occur constantly during on-line time from each county.

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[2] ISETS Project Memorandum, dated November 10, 1999, Re: IV&V Review for Indiana October 25 and 26, 1999

The State forwarded the work products of the technical evaluation of the ISETS project conducted by KPMG LLP[3]. Reviewing the KPMG Technical Assessment Report (#2), pages 20-26, the following issues were noted:

- There was no formal Capacity Planning document on which the initial hardware purchases for ISETS are based. At the time of the KPMG assessment, the ISETS project did not have a formal system-wide capacity planning function;

- An AS/400 capacity upgrade plan was in place. However, the upgrade plan was not being implemented in any particular order. For 74 counties that had planned upgrades, there was no documented implementation plan;

- Indiana's Information Services Division (ISD) did not have dedicated capacity for ISETS, and no performance monitoring was taking place at the individual system level;

- CPU utilization and other performance-related data for county AS/400s were not available. Performance-related data was not available because the Performance Monitor feature of the AS/400s was not turned on; and

- No formal documentation was available for volume and stress tests for ISETS. It was not clear if these tests were ever conducted. The KPMG report notes that for a system of this size, it is imperative that volume and stress tests be conducted. The volume and stress tests would validate that ISETS could, in fact, support the load generated by statewide implementation and could also instill needed confidence among system users in ISETS' ability to handle statewide rollout.

After reviewing the IV&V documentation provided, it is unclear if any of the above concerns were addressed by the ISETS project since the KPMG report in June 1999. There is reason to believe that the same or similar deficiencies (i.e., lack of a formal system-wide capacity planning function, lack of a documented implementation plan, lack of performance-related data on the AS/400s, and lack of any formal documentation for volume and stress tests) could be present for the currently planned AS/400 RISC architecture evaluation/implementation during the 1st through 3rd quarters of 2000 and the planned conversion of 88 counties to Frame Relay by mid-year 2000.

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[3] KPMG Reports on ISETS: (1) Functional Assessment, (2) Technical Assessment, and (3) Business Process Impact Assessment, dated June 1999

3.   RECOMMENDATIONS

The following recommendations are presented herein based upon the on-site review by the IV&V assessment team on October 26-27, 1999, and analyses of the State's ISETS project documentation following the on-site portion of the review.

3.1   INDEPENDENT VERIFICATION AND VALIDATION

The State must acquire Independent Verification and Validation (IV&V) services in accordance with 45 CFR 307.15(b)(10). These services can be obtained from a contractor via an 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 or 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.**[4]

This IV&V activity should describe the level of IV&V services to be provided, consisting of an initial review at contract (or State agency agreement) activation and semi-annual reviews to monitor the overall status and management of the project's development effort. Many aspects of this level of IV&V services are briefly described below, and will be further defined by the State and its *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 (including draft documents submitted for comment), as specified in 45 CFR 307.15(b)(10)(ii).**

INITIAL AND SEMI-ANNUAL IV&V REVIEWS

An initial (at contract or State agency agreement activation) and semi-annual IV&V reviews shall be required to ensure the project is on schedule and requirements are being met for Federal certification. The frequency and task level of these reviews will be defined in the IV&V Management Plan submissions discussed in Section 3.2, as appropriate. The initial and semi-annual reviews will require the IV&V Service Provider to assess system development in areas including, but not limited to, the following:

  a)   Analyze project management and organization, evaluate project progress, resources, budget, schedules, work flow and reporting.

  b)   Review and analyze project management planning documents.

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[4] IV&V services are eligible for reimbursement at the regular (66 percent) rate of Federal financial participation.

c)   Review and analyze project software development documents.

d)   Review and analyze QA, CM and RM processes to ensure they are being documented, carried out, and analyzed for improvement.

e)   Assess the project's CM function/organization by reviewing its reports and making recommendations regarding appropriate processes and tools to manage system changes.

f)   Assess the project's risk management plan and make recommendations regarding organization, processes, policies, and overall effectiveness of the plan to identify, analyze, and mitigate potential project risks.

g)   Review system hardware and software configuration and report on any compatibility and obsolescence issues.

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

i)   Review and analyze system capacity studies.

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

The initial and semi-annual IV&V reviews of system development in the following areas are <u>not currently required</u> for the ISETS project. However, the State is advised to select an IV&V Service Provider with the appropriate technical skills and resources available to support such reviews should they become necessary as a result of significant findings during the semi-annual IV&V reviews.

a)   Assess and recommend improvement, as needed, to assure maintenance of a data center, including data center input to the project regarding operational and maintenance performance of the application.

b)   Assess and recommend improvement, as needed, to assure lines of communication between project staff and State management are in place and engaged.

c)   Monitor the performance of the QA function/organization by reviewing its reports and performing spot checks of system documentation.

d)   Develop performance metrics, which allow tracking of project completion against milestones set by the State.

e)   Assess and recommend improvement, as needed, to assure appropriate user and developer training is planned and carried out.

f)   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.

g)   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.

QUARTERLY MASTER PROJECT PLAN (MPP) UPDATES

In addition to the initial and semi-annual IV&V reviews identified above, ISETS project management shall also provide directly to this Office a quarterly update status (spreadsheet or other comparable form) on all tasks and subtasks of the ISETS Master Project Plan (MPP). A detailed explanation for all significant changes (e.g. task/sub-task additions, deletions, slips in schedules or significant staff allocation changes) to tasks/sub-tasks of the MPP shall accompany each quarterly status update along with a mitigation plan to minimize the risk and impact on the ultimate certification success of the ISETS project. This Office reserves the right to require less or more frequent MPP status updates based on the State's progress and adherence to ISETS project plans and schedules.

FULL TECHNICAL IV&V REVIEWS

Full technical (software and hardware) IV&V reviews are not currently required for the ISETS project. However, the State is again advised to select an IV&V Service Provider with the appropriate technical skills and resources available to support such reviews should they become necessary as a result of significant findings during the semi-annual 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 give it assurance 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:

a)   Perform a detailed review of the system documentation (Requirements, Design, Training, Test, Management Plans, etc.) for accuracy and completeness.

b)   Perform a detailed review of the software architecture for feasibility, consistency, and adherence to industry standards.

c)   Inventory and review the application software for completeness and adherence to programming standards for the project.

d)   Review the traceability of system requirements to design, code, test, and training.

e)   Analyze application, network, hardware and software operating platform performance characteristics relative to expected/anticipated/contractually guaranteed results and industry standards/expectations.

3.2   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 report refers to as an *IV&V Management Plan*.[5] These recommendations are intended to assist the State in creating and refining an acquisition/procurement document's Scope of Work for the eventual solicitation of an IV&V Service Provider. If the IV&V Service Provider is to be a State agency, the IV&V Management Plan, incorporating these recommendations, should be jointly constructed as part of an Interagency Cooperative 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 technical assistance in the form of documentation review and recommendations, as needed, to assist the State in the development of its Interagency Cooperative Agreement or Statement of Work for the acquisition of the IV&V Service Provider.

Figure 1. Estimated Critical Milestones Schedule in ISETS IV&V Procurement, below presents an estimated timeline presenting what we believe represents an appropriate order for the major milestones in the ISETS IV&V procurement phase, from issuance of this report through to the IV&V Service Provider being brought aboard to completion of the IV&V Management Plan. The State should consider this estimated timeline as it develops its initial IV&V Management Plan and subsequent update to the State's Annual APDU. As the State develops a more accurate critical milestone schedule for procurement of IV&V services, caution should be exercised to assure consistency with Indiana's procurement processes and timeframes. If an expedited procurement process is an option for the State, then such an expedited process should be seriously considered for the ISETS IV&V procurement. The State's APD will need to incorporate the requirements and activities of the IV&V Service Provider's proposal and IV&V Management Plan.

ACF will periodically reevaluate the IV&V scope of work and frequency for ISETS based on project progress or when one or more IV&V triggers occur, as described in 45 CFR 307.15(b)(10)(i), such as failure to meet a critical Advance Planning Document (APD) milestone."

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[5] 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 ISETS project's critical development and implementation phase milestones and deliverables. In addition, it serves as vital documentation to the State's required As-Needed Advance Planning Document Update.

Figure 1. Estimated Critical Milestones Schedule in ISETS IV&V Procurement
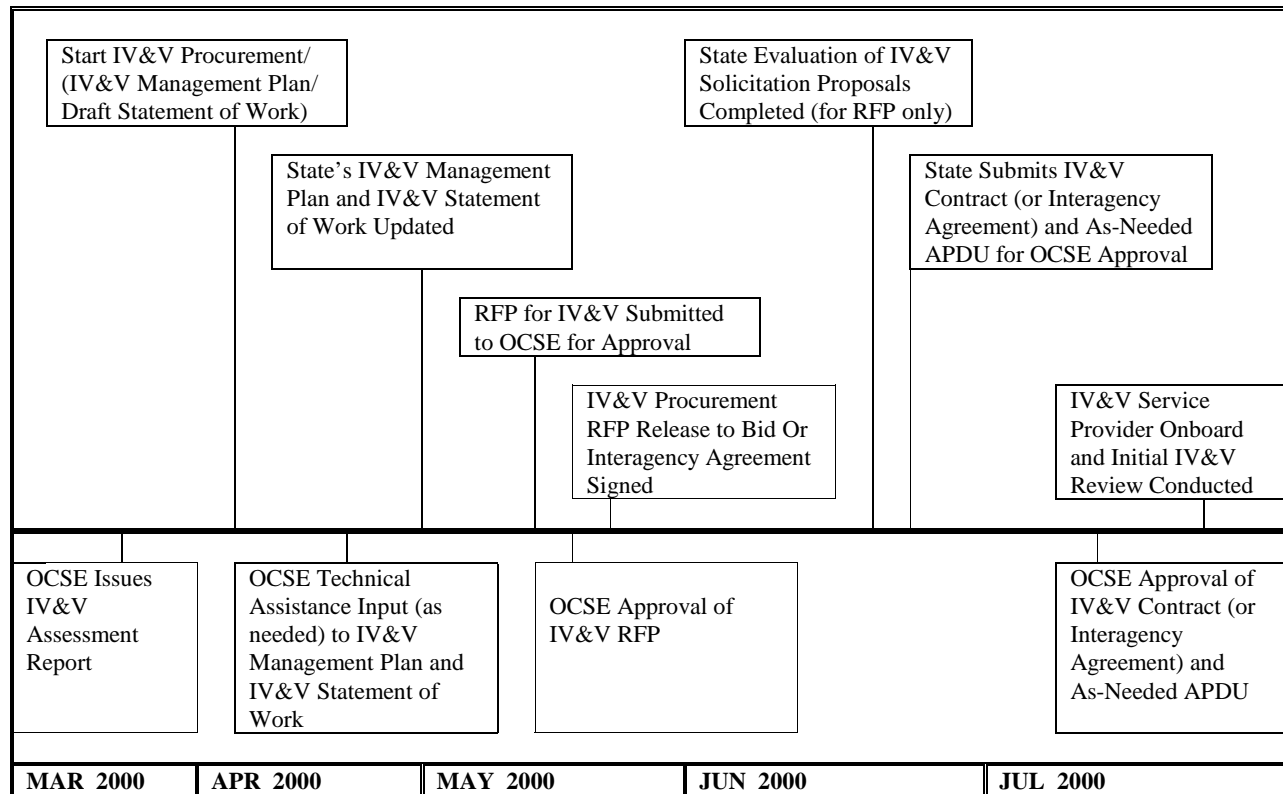
3.3 PROJECT PLANNING

The State must formally document a standardized, structured process used by the project to identify, categorize, analyze, and mitigate <u>all</u> current and future ISETS project risks. This document/plan should describe the method used to determine risk status and measure the progress of risk mitigation efforts. In addition, this document/plan should contain details such as the results of the risk identification (i.e., a risk list), categorization (i.e., risks grouped by category), analysis (i.e., risk analysis tables), and mitigation planning (i.e., mitigation strategies, analysis of the strategies, planned implementation, and results of implementing the planned mitigation).

It is recommended that the State consider having ISETS management personnel attend a Risk Management Workshop similar to one sponsored by the State Information Technology Consortium (SITC), and taught by Software Productivity Consortium (SPC) personnel.

The IV&V Service Provider shall:

- Evaluate the overall ISETS risk management strategy/plan and make recommendations regarding organization, processes, products, policies, and overall effectiveness of the plan to identify, analyze and mitigate potential project risks; and

- Evaluate and make recommendation on whether appropriate mechanisms are in place for project self-evaluation and process improvement.

3.4 CONFIGURATION MANAGEMENT

The State must ensure that a formal Configuration Management (CM) plan and associated procedures are developed and implemented in a comprehensive manner for the ISETS project.

The IV&V Service Provider shall:

- Review and evaluate the CM plan and procedures associated with the ISETS 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, etc., are developed and maintained under an appropriate level of configuration control; 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.

3.5 REQUIREMENTS MANAGEMENT

The State must be able to verify and demonstrate that all ISETS system requirements are allocated to either a software or hardware subsystem and that all software requirements have been implemented and successfully tested for ISETS. The project must develop a formal, Configuration Management (CM) controlled, requirements allocation document, or other comparable documentation, as evidence of the ISETS requirements being allocated to the key software and hardware components of Indiana's statewide Child Support Enforcement System and of how implementation of these requirements is confirmed/verified.

It is recommended that the State utilize any number of commercially available requirements management software packages to trace software requirements throughout the life cycle of the ISETS project (including design, code and test phases).

The IV&V Service Provider shall:

- Evaluate and make recommendations on the project's process and procedures for managing requirements;

- Ensure the system requirements are well defined and understood;

- Verify that all ISETS requirements are allocated either to a software or hardware subsystem and 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 shall provide detailed recommendations for improvement. These recommendations shall, at a minimum and as required, include such aspects as organizational control, resources, and process models; and

- Verify that ISETS requirements are under formal CM.

3.6   SYSTEM SECURITY

The State must take the necessary steps to ensure that project security and risk analysis (i.e., for the vulnerability of the ISETS in regard to fraud, theft or loss of data) is performed for the ISETS project. The product(s) of the risk analysis effort should be taken into account as part of the overall ISETS risk management strategy addressed in *Section 2.1 Findings (Project Planning)* and *Section 3.3 Recommendations (Project Planning)* of this report.

The IV&V Service Provider shall review and verify that ISETS project security and risk analysis is performed and make recommendations for improvements in procedures/process as required.

3.7   SYSTEM CAPACITY

The State must address the noted issues in the KPMG report as they relate to the on going AS/400 RISC architecture evaluation/implementation and planned conversion of the 88 counties to Frame Relay (i.e., lack of a formal system-wide capacity planning function, lack of a documented implementation plan, lack of performance-related data on the AS/400s, and lack of any formal documentation for volume and stress tests).

The IV&V Service Provider shall:

- Review and evaluate the State's system-wide capacity planning function and make recommendations for improvement, as necessary;

- Review and evaluate the State's implementation plan for the ISETS AS/400 RISC architecture implementation plan and 88 counties Frame Relay implementation plan and make recommendations, as appropriate; and

- Review and evaluate all ISETS volume and stress test documentation and make recommendations as to whether ISETS could, in fact, support the load generated by statewide implementation.

APPENDIX A: ACRONYMS

ACF	Administration for Children and Families
APD	Advance Planning Document
APDU	Advance Planning Document Update
CBSI	Complete Business Solutions, Inc.
CD	Compact Disk
CFR	Code of Federal Regulations
CM	Configuration Management
CSES	Child Support Enforcement System
DSS	Division of State Systems
FCR	Federal Case Registry
FFP	Federal Financial Participation
FSA88	Family Support Act of 1988
FSSA	Family and Social Services Administration
GSDD	General System Design Document
HW	Hardware
IN	Indiana
ISD	Information Services Division
ISETS	Indiana Support Enforcement Tracking System
IV&V	Independent Verification and Validation
MPP	Master Project Plan
NA	Not Applicable
OAPO	Office of Automation and Program Operations
OCSE	Office of Child Support Enforcement
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act
QA	Quality Assurance
RFP	Request for Proposals
RGS	Renaissance Government Solutions
RM	Requirements Management
SITC	State Information Technology Consortium
SPC	Software Productivity Consortium
SW	Software