Texas Commission on Law Enforcement Officer Standards and Education

Technology Performance Review

Conducted by
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1. Executive Summary

1.1. Purpose

This Technology Performance Review was conducted in response to the Sunset Advisory Commission's Staff Report ("Sunset Report") dated August 2008 on the operations of the Texas Commission on Law Enforcement Officer Standards and Education (TCLEOSE). The Sunset Report found that:

"The Commission's Approach to Information Technology Lacks Coordination, Creates Risk, and Increases Agency Costs."

The Sunset Report strongly recommended that the TCLEOSE solicit a technology performance review by a DIR-approved contractor to establish a work plan to improve and modernize all agency functions. The Sunset Report further advised that In order to achieve this goal, the Technology Performance Review should, at a minimum, make recommendations regarding:

- Cost-effective methods to increase the availability and quality of basic licensing and training information for licensees and law enforcement agencies;

- Provide staff access to data – in one database – on all licensees;

- Allow law enforcement agencies to electronically submit data to TCLEOSE; and

- Examine services of the current IT vendor and its software.

On November 14, 2008, Rhyan Technology Services was contracted to provide consulting services to perform the Technology Performance Review. Work on the Technology Performance Review by the designated Project Manager was started immediately upon execution of the contract to meet the timeframe mandated by the Sunset Advisory Commission's directive that the project be conducted prior to the start of the 2009 Legislative Session. Each of the major areas referenced in the Sunset Report were covered to the greatest extent possible.

The Project Manager worked closely with TCLEOSE staff to review all available detail on the following items:

- The TCLEOSE Data Distribution System (TCLEDDS) proprietary application provided by Productivity Center, Inc.,
- The Police Officer Standards and Education Internet Training (POSEIT) system,
- The external TCLEOSE website www.tcleose.state.tx.us, and
- The information technology infrastructure and security environment.

In addition, an assessment was done of the case management system for tracking enforcement and legal actions, the terms and conditions and vendor performance under the current TCLEOSE contract with Productivity Center, Inc. (PCI) to support the TCLEDDS business application, and the general IT operations and staffing for the agency.

1.2 Summary of Sunset Report Recommendations and Findings

The Sunset Report identified four key recommendations and five key findings related to the TCLEOSE information technology operational environment. These key recommendations and findings were the primary focus of the Technology Performance Review.

Key Recommendations:

- The Commission should conduct a technology performance review.

- Require the Commission to develop and implement electronic submission methods for information the Commission requires from law enforcement agencies.

- The Commission should request a security evaluation of the integrity of its current IT security measures.

- The Commission should professionally design and reorganize its website.

Key Findings:

- TCLEOSE dedicates significant amounts of staff time to providing general information to licensees instead of making information easily available online.

- TCLEOSE lacks an IT system that provides basic regulatory information on licensing and enforcement or that accepts electronic licensing information.

- TCLEDDS is an incomplete technology solution, unaffordable to some law enforcement agencies.

- TCLEOSE entered into an IT contract containing non-standard provisions that could jeopardize the agency's IT operations.

- TCLEOSE has a history of recent IT security issues.

The Sunset Report also made recommendations for Management Actions and Changes in Statute that would aid the agency with technology modernizations. Besides recommending that the agency conduct a technology performance review, the Sunset Report also made these additional recommendations:

- Require the Commission to develop and implement electronic submission methods for information the Commission requires from law enforcement agencies.

- The Commission should request a security evaluation of the integrity of its current IT security measures.

- The Commission should professionally design and reorganize its website.

1.3. Recommendations from the Technology Performance Review

In performing the Technology Performance Review, all major agency business applications were evaluated and assessed. The assessment methodology employed and the specific areas covered are explained further in Section 2.

The findings of the Technology Performance Review are summarized here and are detailed in Section 3. In general, while this review focused on the Sunset Report findings and expresses concurrence with many of the recommendations within that report, there is not full agreement on all of the findings.

- The TCLEOSE Data Distribution System (TCLEDDS) provides significant benefits to the agency in automating its business processes, however, there are some gaps in the capabilities of the system and some risks involved in the vendor contract.

- The Police Officer Standards and Education Internet Training (POSEIT) system is a valuable asset for the agency and represents an exemplary approach to distance learning and customer service.

- The agency website is outdated and difficult to navigate; the site does not adequately reflect the professional services offered by the agency.

- The overall information technology (IT) infrastructure managed by the agency is well maintained and provides all the necessary services; IT staff and resources are very limited and there is limited documentation of procedures.

Recommendations compiled as part of this Technology Performance Review will serve to reinforce and/or elaborate on Sunset Report findings and make recommendations on additional strategies for modernizing and improving the information technology services used at TCLEOSE. Recommendations focus on four main areas representing the greatest risk to the agency and also those areas that represent the greatest potential benefit to agency operations. Additional detail on recommended strategies and actions can be found in Section 4 of this report.

Goal 1: Increase the Availability and Quality of Electronic Information
- Scan and digitize hard copy records
- Request additional enhancements to the TCLEDDS application
- Develop electronic submission requirements and rules for law enforcement agencies

Goal 2: Reduce Risk and Increase Access to TCLEDDS
- Renegotiate some terms of the PCI contract
- Seek funding for a statewide license for TCLEDDS
- Conduct a study analyzing state supported development of a business application

Goal 3: Engage a Vendor to Professionally Redesign the Agency Website
- Perform a complete redesign of the website
- Deploy the site with content management and analytics capabilities

Goal 4: Strengthen the Policies and Procedures for IT Systems
- Develop complete documentation for all administrative procedures
- Develop complete documentation for all agency web applications
- Develop a best practice for storing and managing systems documentation

1.4 Fiscal Implications

The majority of the recommendations contained within the Technology Performance Review will require additional funding allocations to TCLEOSE. Insufficient funding for staff, services, and capital are at the heart of the technology issues identified in the Sunset Report and are confirmed in this Technology Performance Review.

The development of the TCLEDDS regulatory application in partnership with PCI has led to elevated risk for the department and should be remedied through the purchase of a statewide license for the system or the outright purchase of all rights to the system itself. Either of these options could provide full access to the TCLEDDS by all users at no cost to regulated agencies or the public. Both options will require additional future funds for the agency to maintain the system over time through maintenance fees to PCI, or for the agency to develop internal or outsourced staffing services to operate and maintain the system itself. If neither of these options is pursued and the contract agreement was to be terminated, the agency would be without its business software application, effectively halting its operations and requiring a new software application to be developed.

In order to aid the agency in determining the best option for full access to TCLEDDS or another business application to support its primary functions, the agency should engage a consultant to perform a study of the agency's business process, its existing systems (primarily TCLEDDS), and determine the costs and benefits of each available option to license, buy, or build. This information will provide the agency with a full picture of the options and aid the agency in fully communicating its needs for additional funding sources.

Estimated Price for Study: $40,000

The implementation of a new website will also require additional funds for consultant services for website design and development. The TCLEOSE will require significant support to facilitate stakeholder requirements, design a new navigation structure for the site, and develop and deploy new content as well as tools required to manage the website. These services can be contracted to a vendor on a deliverables basis for a negotiated price.

Estimated Price for Website Redesign: $25,000

Additional contract services for improvements to agency policies and procedures regarding security and operations are recommended. The costs of these services would be determined based on time and materials.

2.   Project Overview

2.1.   Agency Technology Background

TCLEOSE began automating its major regulatory and training functions during the late 1990s with the development of the TCLEDDS and POSEIT systems. A very limited budget and a small staff have necessitated the agency seek unique ways to develop its technology resources as funding and partnership opportunities became available.

The TCLEDDS application provided by PCI was created using a public-private partnership that allowed the private sector to fulfill a need at TCLEOSE while also creating an entrepreneurial opportunity for the company. PCI created the system at no cost to TCLEOSE, utilizing the subject matter expertise of the agency in exchange for the opportunity to market the resulting product to the regulated community for a reasonable profit. This venture has been successful in providing TCLEOSE with a very functional licensee tracking system while at the same time providing a successful product for PCI. This arrangement has generally fulfilled its original promise, however, it has also limited the flexibility of TCLEOSE to expand access to the system to all agencies and make regulatory and licensing information freely accessible to everyone.

The POSEIT system was created using grant funds from the Governor's Criminal Justice Division to provide distance learning for law enforcement officers. Partnerships with The University of Texas at Austin and Sam Houston State University have allowed TCLEOSE to create a very effective education provisioning system that delivers free training to any officer who has access to a computer. Fully implemented in 2001, the POSEIT system now offers 25 core curriculum courses for law enforcement officers free of charge. The courses can be taken at any time via the Internet. TCLEOSE has been a leader in Internet based training classes and has seen significant and enthusiastic use of the POSEIT system. The courseware is offered in multi-media formats with both audio and video capabilities to over 33,000 users. Since its inception, POSEIT has provided over 2 million hours of free continuing education training.

Limited funding has severely restricted the information technology staff and resources of TCLEOSE. The agency has the equivalent of two full time employees to provide technology services for the agency. These include a full-time network administrator and two FTEs that split their time as webmaster and distance education technical support. The network administrator is charged with supporting the wide area and local area networks, server administration for sixteen servers, desktop rollout and support for PCs and laptops, all security functions, backup and recovery operations, and customer support. Even though TCLEOSE is a small agency, this is an inadequate resource for providing services to the agency and the regulated community. No additional specialized skill sets are available to provide technical expertise regarding more in-depth security monitoring, customer support, break-fix support, systems analysis capabilities, database administration, application programming, website management or training.

2.2 Technology Performance Review Process

2.2.1 Assessment Methodology

IT assessments generally include a review of IT effectiveness, maturity, governance, project management and systems architecture. They may also include various levels of review of the enterprise architecture; staff knowledge, skills and abilities (KSA) assessments; strategic and tactical planning; and the business software application portfolio. For this Technology Performance Review, all of these items have been taken into account in terms of the priority items identified by the Sunset Report, the primary applications used for agency regulatory operations, the agency website, and the overall IT infrastructure environment and operations status.

The Project Manager has collected and reviewed a variety of agency documents including the aforementioned Sunset Report, the current Agency Strategic Plan, the 2009 Legislative Appropriations Request, and a variety of other documents related to IT operations and future plans. A full list of the resources reviewed as part of the Technology Performance Review can be found in Appendix A.

The Project Manager was provided access to TCLEOSE staff for two weeks, starting on November 17, 2008. The staff provided extensive overviews of the business applications in place at TCLEOSE, documentation regarding software systems, infrastructure and security, and subject matter expertise regarding business processes and workflow. Each of the major business applications was evaluated to identify strengths and weaknesses, documentation was reviewed for compliance with best practices and standards, and the hardware/software infrastructure was reviewed to ensure that the technology is being kept up to date and that the infrastructure is secure.

2.2.2 Technology Components Reviewed

1) TCLEOSE Data Distribution System (TCLEDDS): This is the primary application used by the agency to track licensing for the approximately 105,000 officers throughout the state, and to monitor compliance with continuing education requirements. The software is provided to the agency under contract with Productivity Center, Inc. (PCI) for no cost, however, PCI charges a subscription fee for access by law enforcement and training providers throughout the state that are regulated by TCLEOSE. Items under review included the overall application functionality, the level of electronic submission of information to the system, the reporting and provision of information from the system, and the ongoing support by the vendor for the application system including troubleshooting, modifying, maintaining and enhancing the system. The contract provisions between TCLEOSE and PCI were also reviewed. A more detailed description of the TCLEDDS application may be found in Appendix B.

2) Police Officer Standards and Education Internet Training (POSEIT): This system has been built by TCLEOSE in conjunction with The University of Texas at Austin and Sam Houston State University to provide online distance learning for law enforcement. Twenty-five courses are offered for free through the Internet to licensed officers and others requiring education credits. There are approximately 44,000 periodic users, or licensees, taking classes through the system. POSEIT also allows licensees to review

their individual training records through reports provided within the system. This system is currently hosted at the Austin Disaster Recovery and Operations Center (A-DROC) under a contract with the Department of Information Resources (DIR). A more detailed description of the POSEIT system may be found in Appendix C.

3) TCLEOSE Agency Website - The TCLEOSE website, www.tcleose.state.tx.us, has been in place for ten years. The website was reviewed for overall content as well as the use of best practices in the presentation of information to include structure, design, navigation, and ease of use. The underlying hardware and software infrastructure was reviewed for adequacy, and the processes for updating and maintaining the site were also inspected.

4) Case Management for Enforcement and Legal Services - The existing software applications and business processes for initiating, tracking and resolving investigations of licensees were reviewed and evaluated. Planned enhancements to the case management systems were also reviewed.

5) General IT Infrastructure and Governance - A high-level review of IT security, policies and procedures was performed for the network infrastructure, hardware and software resources, system access and management, applications programming and support, database administration, and customer support services.

2.3.   Issues and Constraints

The timeframe allocated for the review was severely restricted due to the need to produce a report by December 2, 2008 for internal agency review prior to the upcoming 81st Legislative Session, as recommended by the Sunset Advisory Commission. The restricted timeframe of approximately 10 days allowed for no hands-on technical validations for agency information systems and no in-depth analysis of business processes and workflows. Instead, the project manager relied on available documentation, interviews with staff and subject matter experts, and staff demonstrations of the primary agency application systems.

3. Assessment Findings

The findings of the technology assessment are organized by each of the technology components reviewed.

3.1. TCLEDDS Software Application

1) The TCLEDDS application provides adequate capabilities for the majority of functions related to licensing and education requirements tracking of law enforcement officers.

- The TCLEDDS application stores and accepts data on all of the major reporting forms used by law enforcement agencies to report regulated activities including appointments and terminations.
- The TCLEDDS application tracks 299 authorized training providers, with over 85 percent of training rosters and officer training credits reported electronically through the application.
- Staff time required to process and approve activities submitted electronically is as much as 75% less than that of hard copy submissions of information.

2) The TCLEDDS application allows TCLEOSE staff to monitor compliance with rules and regulations related to training requirements.

- Contrary to the Sunset Report findings, the TCLEDDS application allows both TCLEOSE staff and subscribers of the system to determine licensee compliance with continuing education requirements. Reports are available showing all training completed over time as well as training credits broken down by the two-year and four-year compliance periods. Completion of mandatory training classes is also easily discernible from reports.
- The TCLEDDS application allows agency staff to manage compliance notifications and provide warnings to agency administrators and licensees for deficient training requirements.

3) New functionality within the TCLEDDS application is under development that will add a case management component to track complaints and enforcement and legal investigations dealing with licensees.

- The ability to initiate, track, and close enforcement investigations dealing with officer criminal misconduct and non-compliance with training requirements will be added to the system, replacing the Access database and spreadsheet procedures currently used by agency staff.
- These cases include tracking of jurisdictional complaints such as training violations and other activities that are under the statutes of TCLEOSE. Non-jurisdictional and organization complaints are tracked separately by the agency.
- Enforcement cases passed on to Legal Services as well as those initiated by

Legal Services will be added within the new module, streamlining case management within the agency.

- The implementation of the new module is scheduled to occur prior to the end of the second quarter of the current fiscal year.

4) The TCLEDDS application does not handle all of the functionality required for the F-5 Separation Forms and Reports.

- The Sunset Report states that F-5 attachments cannot be submitted through the TCLEDDS web interface, however, this functionality is in place. Required attachments containing supplemental information for F-5 forms can be submitted through the TCLEDDS application interface and are included in the official record for that licensee.
- Statutory requirements do not allow TCLEOSE to accept requests for copies of a licensee's previous F-5 separation documents electronically through TCLEDDS. Instead agencies are required to submit a signed, written request for these documents. PDF files of scanned requests are acceptable to TCLEOSE, however, these requests are not yet being processed through the TCLEDDS interface.

5) The TCLEDDS application does not include context-sensitive help as specified in the original system requirements to aid users in entering data or creating reports.

- Only minimal documentation related to the functionality of the system is included with the application to assist users in learning and using the system. There is no help easily accessible within the application to aid a user based on the function currently being used.
- The documentation provided is not adequate nor is it indexed. Users must search a PDF file to find assistance with a topic.

6) Training in the use of the TCLEDDS application is not readily available. Most of the users must learn how to use the system on their own or be trained by a co-worker.

- PCI does not provide regular training classes in the use of the TCLEDDS application nor does it provide onsite training for new agency subscribers.
- Technical support for use of the system is readily accessible over the phone from PCI staff.
- For a charge PCI will travel to a site to provide hands on training.

7) The TCLEDDS application is a proprietary solution, not freely accessible to all law enforcement agencies and personnel.

- The TCLEDDS application is owned and operated by PCI, and all users of the system are required to pay a subscription fee to receive access to state regulatory data.
- TCLEOSE is not allowed under current laws and rules to require law enforcement agencies to subscribe to the system even though all law enforcement agencies receive state funding for educational purposes from the dedicated Law Enforcement Officer Standards and Education (LEOSE) account.
- The most current numbers available reveal that forty-nine percent of agencies are

current subscribers; however, this represents 89% of all active licensed law enforcement officers.

- The majority of agencies choosing not to subscribe to TCLEDDS are very small in size with between 1 and 5 officers.
- Some small agencies have inadequate computer resources to utilize the TCLEDDS application.

8) The technology used in the TCLEDDS application is behind the current versions being implemented for state of the art software.

- The application is using an older version of Microsoft SQL Server, version 2000, which is currently two generations behind the latest technology curve.
- The application software is behind the latest software versions being deployed and does not take advantage of all of the latest capabilities and web-based functionality.
- Even though TCLEOSE is responsible for the underlying server administration and configuration for TCLEDDS hosting, no specific documentation for backup and recovery of the TCLEDDS software system configuration is available to TCLEOSE. In the event of a major system crash, TCLEOSE staff would require assistance from PCI staff to manage a full recovery.

9) Not all law enforcement licensing and training records are available within TCLEDDS.

- Many older, hard copy records were not automated prior to or during the creation of the TCLEDDS database.
- Older data is added to the system as it is accessed, however, the agency has not been able to allocate the necessary resources to perform a complete back file conversion.
- TCLEOSE staff must still access hard copy records to validate and build a complete history of an officer's employment experience.

10) Electronic file import and integration features are limited within the TCLEDDS application.

- All subscription users of TCLEDDS are able to key enter licensing and training data into the database through application interface screens.
- TCLEDDS also allows some file format uploads of electronic data into the system by subscribers who have their own databases, most notably the training rosters imported by the academies and training providers. Direct data imports either through Excel or comma-delimited file upload is limited.
- Integration options and electronic interfaces to other agency systems, such as those operated internally by the larger law enforcement agencies, are not available.
- No electronic data import is available to non-subscribers.

3.2 TCLEOSE - PCI Contract Agreement

The Sunset Report states that the contract between TCLEOSE and PCI contains non-standard provisions and unfavorable termination provisions that could jeopardize the

agency's IT operations. The Technology Performance Review team's assessment confirms that there are risks with the current contract agreement.

1) In December 2006 TCLEOSE signed a non-standard 10-year extension to the contract; the state contract management guide generally recommends a four-year term for IT contracts.

2) The contract does not contain termination provisions favorable to TCLEOSE.

   - Termination of the agreement can only occur under the following circumstances:

     a) If either party notifies the other in writing by July 1 of the eighth (8th) year of the existing Agreement.
     b) Should Developer's cost to provide the Application exceed revenues from the license fees, Developer may terminate the contract with ninety (90) days advanced written notice. This cannot occur before eighteen months from the date of signature on the current agreement.
     c) Commission may terminate at any time following notice to Developer of a material default under the Agreement which remains uncured for thirty (30) days following such notice.

     The TCLEOSE does have the right to terminate for breach of contract as outlined in bullet C above; however, neither party can opt out of the contract without cause. Bullet A above would raise caution since it is up to the Developer to determine the definition of costs and revenue. Excluding termination for default, TCLEOSE has use of the Application until the end of the Subscription License Year should the Developer terminate the agreement. In a worst case scenario the Developer could have given notice on October 1, 2008 and the agency would be without an Application on January 1, 2009 since the new agreement was signed in December 2006.

   - It is unclear under what circumstances the agency would take over ownership of the escrowed source code to continue to operate the product for agency use other than purchasing the product at a price to be negotiated.

3) TCLEOSE is limited to a 15-day Right of First Refusal should PCI agree to sell the product and source code to a third-party.

   - No predetermined price or formula for establishing a price is outlined in the contract.
   - A 15-day Right of First Refusal is insufficient to acquire funding should the agency need to purchase the product.

4) PCI is currently the subject of a class-action lawsuit related to a security breach that could result in risk to the company's financial viability.

   - Should the lawsuit cause PCI to file bankruptcy or otherwise cease operations

rather than engage in a protracted legal battle, it is unclear how the TCLEOSE could continue to operate the Application. The source code for the product is currently held in escrow, however, there are no provisions for its use other than the purchase of the code as previously stated.

3.3   POSEIT Review

The Sunset Report found no major issues regarding the operations of the POSEIT system and provided generally favorable reviews of the application. Findings of the Technology Review Team are provided below.

1) The POSEIT system is an innovative web-based solution for providing continuing education classes to licensees at no cost.

- POSEIT provides online curriculum for 25 classes, 19 of which are presented in multi-media formats.
- TCLEOSE has recently contracted with a new vendor to provide comprehensive learning content services for POSEIT, converting eight courses to the latest multi-media formats and providing two additional courses in the new format.
- TCLEOSE has contracted with DIR to provide a robust and stable web hosting environment that can accommodate large numbers of POSEIT users especially during approaching training deadlines when there are surges in user activity.
- Classes taken in the POSEIT system are updated automatically to the TCLEDDS database.
- Licensees are able to view their completed training credits through the POSEIT interface for both POSEIT classes and other classes recorded in the TCLEDDS database.

2) TCLEOSE has limited skilled resources and knowledge base to ensure maintenance and management of the POSEIT system.

- TCLEOSE has only a half-time FTE available to manage and maintain the POSEIT web application.
- The only additional employee with any extensive knowledge of the POSEIT system has left the agency.
- The POSEIT system was created in partnership with Sam Houston State University (SHSU), who will no longer be operating the system, creating a gap in knowledge of the system operations.
- No documentation of the POSEIT software configuration, underlying content management components or web architecture is available.
- Intermittent problems with the POSEIT to TCLEDDS interface have gone unresolved such that not all course completions are successfully recorded in the TCLEDDS database. This creates the need for manual intervention to ensure that licensees training credits are properly recorded.

3.4. Website Review

The Sunset Report cited the TCLEOSE website as poorly organized and difficult to navigate, leading to difficulty for users to find the information they seek. Stakeholders have been critical of the website, and have suggested that the agency create a Frequently Asked Questions section to help answer basic questions.

1) **The agency website is outdated and poorly organized, is not easily navigable, and does not present information in an easy-to-use framework**

   - The website does not utilize best practices in presenting information; there are no easily discernible navigation paths and information is not grouped logically according to topic.
   - Finding information can be time-consuming and confusing to users.
   - The website appears unsophisticated and does not present a professional image of the agency.
   - The website is not organized to provide quick access to the most popular and useful topics.

2) **Maintenance of the website is made more difficult by the lack of structure.**

   - The Home Page is overly long requiring significant scrolling of the cursor to view all of the links.
   - New content is usually placed at the top of the page and mixed with other topics.
   - There are numerous incorrect or broken links, especially from intermediate levels within the site, i.e. once a user drills down into the site, there are broken links to get back to the Areas of Interest topics on the left side of the page as well as broken links back to the Home Page.
   - No documentation regarding the website software configuration, underlying content management components or web architecture is available.
   - No formal content management system is employed on the site to assist in edits to the content, control updates and versioning of the site, or to facilitate recovery of the site.

3) **Staff resources for website maintenance are limited, with only one half-time FTE allocated for content management.**

4) **The agency is currently working on a Frequently Asked Questions section for the website in an attempt to make common questions and information more easily accessible. The FAQs should be implemented by end of the second quarter of this fiscal year.**

3.5. General IT Operations Review

The assessment of the IT infrastructure, security, policies and procedures, backup and recovery procedures, and refresh cycle was done with the assistance of the network administrator. This was a high-level overview, however, other than very limited staffing, the agency appears to have most of the necessary capabilities to manage and monitor the organization's computers and network.

1) **The IT inventory is kept up to date with a standard refresh cycle and is adequately documented.**

   - The server configurations are documented and most are at the latest software and patch version levels.
   - The PC inventory is documented and PCs are refreshed at least every five years, with laptops replaced on a three-year cycle.

2) **Standards and policies are mostly in place, however, detailed procedures are not documented and followed.**

   - General IT policies for employee access, usage, and security are documented in the agency's policy manual.
   - Procedures for granting and revoking employee access to network and data systems is lacking.
   - Backup and recovery procedures for data archive are documented.
   - System and PC configurations and full recovery procedures are not fully documented.

3) **Application systems documentation is limited or non-existent.**

   - Documentation for the TCLEDDS system and application configuration is not provided by PCI and has not been developed by TCLEOSE.
   - Documentation for the POSEIT web application system is not available.

3.6. Security of Application Systems

The Sunset Report stated that the TCLEOSE has had a history of recent IT security issues. It appears that this concern is in reference to two security breaches at the agency, and both problems have since been resolved. No additional security issues were found during the review.

1) **A laptop containing the TCLEDDS database of Social Security Numbers and mailing addresses of law enforcement personnel was stolen from the PCI offices during a burglary in May 2007.**

   - The primary TCLEDDS database has since had all Social Security numbers removed and is only using the last four digits of the number in the files. The Personal ID number has replaced the SSN in the database as the primary identifier for licensees.
   - The Social Security numbers are kept in a separate, secure database not directly associated with the TCLEDDS application and only used to cross-reference and validate numbers from within the application or to add new users and licensees.
   - The secure configuration of the database files is now separate from the TCLEDDS and is no longer used as part of the core system.

2) **In Fall 2007, the POSEIT system home page was defaced by a hacker causing a lengthy shutdown of the system in order to repair the site.**

- The POSEIT system was utilizing an open source content management component that had a serious security flaw. This component of the system has been replaced and the system has been stable since that time.
- All necessary steps were taken to mitigate the issue, but follow up documentation regarding the changes and fixes was not completed using acceptable industry standards, which call for a Root Cause Analysis and full documentation of the event.

3) **The TCLEOSE is utilizing DIR Security Services to perform network security testing for identification of potential vulnerabilities within its information systems.**

- The agency has been utilizing DIR Network Testing Services made available to all state agencies for network surveying, port scanning, vulnerability probing, and testing for common exploits. The DIR performed a Controlled Penetration Test in the fall of 2007 and found four high-risk vulnerabilities, all of which were quickly mitigated.
- The DIR is currently performing its second annual Controlled Penetration Test with results scheduled to be available in December 2008.

3.7 General Issues and Constraints

<u>Limited IT Resources at TCLEOSE:</u>
Like many small state agencies, the TCLEOSE faces several challenges in the development and maintenance of its information systems. Even though the agency has an important licensing and education function directly related to the effectiveness and capabilities of the state's peace officers and therefore the safety of the state's citizens, it has not been allocated enough resources to develop and maintain all necessary supporting information technology. There are very limited staff and investment dollars for IT in the TCLEOSE budget, and requests for additional monies have not provided the resources necessary to hire additional staff or build a robust suite of tools necessary to manage all aspects of the agency's regulatory environment.

The Commission currently has only one full time IT staff member dedicated to network and system administration. This employee also serves as the information security officer, handles all computer security issues, help desk and customer support functions, and most of the user provisioning (employee access, login and password setup, file access, and removal of access privileges). Two other staff members provide support for the agency websites, both the main site and POSEIT, on a half time basis; other staff provides minimal user support and ad hoc reporting. Employees have learned their skills mostly through on the job training and are not career IT personnel.

There are no software applications support personnel trained in project management or software lifecycle development, no skilled programmers or database administration personnel, and no web developers. Additional FTEs to serve in these roles are not available or funded.

4.   Recommendations

The Sunset Report identified four goals for the Technology Performance Review.   In addition to addressing these four goals, recommendations will cover two additional goals. Each of the recommendations in this section is designed to assist TCLEOSE in achieving the goals outlined below and improve the overall technology services offered by the agency.

1) Cost-effective methods to increase the availability and quality of basic licensing and training information for licensees and law enforcement agencies;

2) Provide staff access to data - in one database - on all licensees;

3) Allow law enforcement agencies to electronically submit data to TCLEOSE;

4) Examine services of the current IT vendor and its software as well as the current contract;

5) Professionally redesign the agency website; and

6) Strengthen the policies, procedures, and documentation for all technology components.

4.1.   Increase the Availability and Quality of Electronic Information.

This broad recommendation encompasses all three of the top goals designated in the Sunset Report and listed above. The agency should use all appropriate avenues to convert more hard copy data to the electronic database, increase the amount of information available in the database through additional electronic submission mechanisms, reduce the need for hard copy submittal of data, and provide seamless access to agency data within the TCLEDDS application.

4.1.1 Scan and digitize hard copy records.

The agency is seeking funds to scan and index the approximately 1.5 million hard copy paper documents retained by the Commission so that may be fully accessible in electronic format. These files should be indexed within a database so that they may be searchable by licensee, type of license, date, agency, and active/inactive status.

Limited scanning of records is being performed by TCLEOSE staff as older hard copy records are accessed, however, these efforts are not sufficient to convert the back files stored and archived by the agency. No index to these records is being stored in a database.

The agency has requested an Exceptional Item in its 2009 Legislative Appropriations Request to fund this activity during the upcoming biennium. Until the agency's hard copy records are converted to electronic form, the staff will be required to retrieve records and

status information from both electronic and hard copy files, which makes requests for information very time consuming and difficult to compile.

The development of the TCLEDDS automated system did not include all data from historical files when it was created in 1998, so many of the records kept in hard copy are not included in the database. Only records that had been previously automated by the agency in Access databases were able to be imported into the new system, leaving many older and inactive records unavailable in the new system. Old data is entered into the system as it is accessed from hard copy, however, staff resources are not available to perform a full conversion.

The TCLEOSE should follow best practices laid out by the Texas State Library and Archives Commission (TSLAC) for conversion of hard copy records to an electronic document management system.

Recommended Actions:

- Engage staff at the TSLAC to gain assistance in planning for hard copy record conversion;

- Investigate the use of the Council on Competitive Government contract managed by TSLAC to engage the designated vendor, Neubus, Inc., in evaluating, planning, and implementing a scanning and indexing project;

- Implement a full indexing scheme to make record retrieval fully searchable;

- Update all agency required forms to "smart forms" that are readable by optical character recognition software to maximize the conversion of digital data during the scanning of forms that are received in hard copy;

- Implement a commercial off-the-shelf (COTS) Electronic Document Management System to house and manage the scanned images and indexes; and

- Engage a professional consultant to assist the agency in developing policies, internal procedures, and the record taxonomy necessary to manage electronic records, and to assist in the outsourcing of the back file conversion;

- Hire or train an agency records administrator in the standards and guidelines for electronic records management.

4.1.2   Request additional enhancements to the TCLEDDS application.

Additional enhancements to TCLEDDS should be evaluated and added as soon as possible to increase the availability of data for use by TCLEOSE staff and the law enforcement community. Formal requests for enhancements should be documented and submitted to the application vendor, PCI, once current enhancements have been implemented.

PCI is currently implementing a major enhancement to the TCLEDDS application that

will add a module to track enforcement and legal investigations and actions. This module will replace multiple Access databases and Excel spreadsheets and streamline the case management process within the agency. This continued development should be aggressively pursued for implementation by the end of the second quarter of FY 2009 (February 2009).

The Sunset Report cited a lack of basic information regarding complaints and an inability to automatically account for performance measures in resolving complaints. However, follow up discussions with staff indicate that all jurisdictional complaints will be tracked in the new module being deployed in TCLEDDS. Other complaints tracked by the agency such as non-jurisdictional complaints (which are generally referred to another entity) and organizational complaints will be tracked in a separate database.

Recommended Actions:

- Ensure that the enforcement and legal case management module distinguishes between actions taken against jailers versus peace officers (per Sunset Report) and includes all jurisdictional complaint tracking;

- Request assistance from PCI to modify the POSEIT reporting mechanism to fully report a licensee's training credits and to report and calculate continuing education credits by compliance cycle (two to four year periods) so that individuals not subscribing to TCLEDDS will have improved access to continuing education requirements;

- Request modifications to TCLEDDS to allow law enforcement agencies to upload all required attachments to the F-5 separation reports and any other attachments now received in hard copy format;

- Request modifications to TCLEDDS to allow for data exchange between the TCLEDDS application and law enforcement agency's internal database systems to facilitate the import of electronic information and reduce the hard copy files sent to TCLEOSE;

- Request assistance from PCI to provide the existing capability to upload training rosters to all training providers via the agency website, effectively eliminating hard copy submissions of these forms; and

- Request modifications to the TCLEDDS software to provide TCLEOSE staff with the ability to upload additional types of electronic forms data; and

- Request that additional training materials be provided for TCLEDDS application subscribers either through the introduction of full context-sensitive help within the application or through a training module provided on the POSEIT system.

TCLEOSE should work closely with the TCLEDDS application vendor to prioritize and schedule these enhancement requests. The current contract between TCLEOSE and PCI allows for regular yearly enhancements and updates to the software, however, some of these requests may require TCLEOSE to commission and pay for contracted services from the vendor.

4.1.3 Develop electronic submission requirements and rules for law enforcement agencies.

The Technology Performance Review team agrees with the Sunset Report that the agency should implement additional electronic submission capabilities and require regulated entities to submit data electronically. Unless laws and rules are changed to require all regulated agencies and training providers to subscribe to TCLEDDS, which is unlikely, the agency will have to develop submission capabilities separately from the subscription application. TCLEOSE should commission PCI or another DIR-certified contractor to develop an interface for regulated agencies to use in submitting electronic forms data to the agency, with or without a subscription to the TCLEDDS application. This initiative would assist the agency in reaching its goal of eliminating paper processing within the agency.

TCLEOSE should make the necessary statutes and rules changes to allow all agencies to request required information through a formalized process in lieu of required signatures and forms submitted on law enforcement letterhead. Chief administrators and training coordinators within agencies should be provided with special roles through a website login to submit requests such as the F-5R employment history, which is required prior to hiring a peace officer or jailer. Submission and response to these requests should be handled completely electronically to reduce the amount of paper required by the agency.

Additionally, the agency should allow law enforcement officers to request electronic copies of their employment and training history, either through POSEIT or a new capability to be developed for the website. This system would require a valid login that would verify officer information prior to releasing these documents electronically.

Recommended Actions:

- Investigate changes to the TCLEOSE statutes and rules to require law enforcement agencies receiving LEOSE dedicated funds to subscribe to the TCLEDDS application for filing required documents;

- Modify TCLEOSE statutes and/or rules to require electronic transmission of official documents as well as formal requests for documents such as the F-5R requests for employment history;

- Engage a professional consultant to fully analyze all business processes regarding forms submission, and develop software and security requirements for accepting electronic forms over the web from regulated entities not subscribed to TCLEDDS;

- Contract with a DIR vendor to perform development and deployment of an electronic submission interface for the agency website.

4.2. Reduce Risk and Increase Access to TCLEDDS.

The agency's development of its primary business application to track regulatory activities was done in partnership with PCI, who is the owner and developer of the TCLEDDS application. This partnership was formed to provide TCLEOSE with a functional application system at virtually no cost, and at the same time provide PCI with a built-in market for its software. This arrangement has succeeded in producing a valuable business application, however, there are a unique set of dependencies between the two parties that creates a significant amount of risk.

The lack of funding within TCLEOSE to develop a system on its own has created a dependence on the software provider for the majority of the agency's automated business processes. The terms of use of the TCLEDDS software effectively represents a subscription service to TCLEOSE at no cost, therefore the agency is dependent on its ongoing contract relationship with PCI as well as the financial stability of PCI to continue the operation of the software. This is different from most Commercial Off-the-Shelf (COTS) software products used by state agencies in that the majority of software licenses include an initial purchase, an optional annual maintenance fee for upgrades to the software, and a perpetual right to use the software. The perpetual use license associated with most COTS software allows the purchaser to use the software for as long as it chooses (and can effectively support it), even if the user chooses to no longer pay maintenance or the vendor ceases to sell and support the software.

TCLEOSE currently has no right to use the software beyond the terms of its existing contract nor does it have favorable termination or buy-out capabilities within the contract. In addition, the agency is dependent on PCI to effectively market the software to the agency's regulated entities in order to 1) have more agencies file their information electronically, and 2) remain financially viable in order to continue the development and operation of the software. TCLEOSE is also restricted from requiring or even encouraging regulated entities to subscribe to the software.

PCI is dependent on TCLEOSE to provide an ongoing market for the software, provide subject matter expertise in the development of the product, and to continue to contract for the use of the software. It would also not be in PCI's interests if the agency were to develop its own internal software application to handle agency business.

The current situation has produced a viable software product and a very low cost way for TCLEOSE to automate its business, but it has also created a set of risks that should be addressed. PCI's current legal problems concerning the loss of confidential information creates an additional risk to the agency if the vendor cannot or chooses not to continue to operate its business.

4.2.1   Renegotiate some terms of the PCI contract.

TCLEOSE at a minimum should renegotiate its contract with PCI to address the major findings of the Sunset Report and to ensure the long-term use of the TCLEDDS application. Input from DIR is advised.

It should be noted that this contract is different from most state contracts in that it

represents a public private partnership with no costs to the agency, similar to the DIR Texas Online contract for state portal services. This unique situation makes it difficult for the agency to conform to all standard contract provisions, however, there are a few major points, especially regarding termination provisions, that should be addressed.

Recommended Actions:

- Consider renegotiating the contract to a shorter term to allow for a more regular review of the contract provisions as well as the vendor performance and stability;
- Renegotiate termination provisions within the contract to specifically address defaults by either party, and to provide more specific remedies should default occur;
- Renegotiate the 15-day Right of First Refusal clause to represent a realistic timeframe for negotiation of a sale;
- Include a sales price model within the contract to be updated at least annually stating the exact purchase price required to take over the operations of the product;
- Negotiate a statewide licensing model and price where the state would have the option to pay one license fee for access to TCLEDDS by all regulated entities and allow for public access to data;
- Provide more specific terms relating to the Off-Site Storage of Code, detailing under what conditions the escrowed code can be used;
- Negotiate terms to require the vendor to provide sufficient documentation regarding system usage and recovery procedures for the application as well as full documentation of the database; and
- Renegotiate the contract to ensure compliance with state contracting practices to the greatest extent possible.

4.2.2   Seek funding for a statewide license for TCLEDDS.

The most reliable way to ensure that all agencies use the TCLEDDS system, and subsequently cut down the paper processing required for licensing and tracking activities, is to have the state fund a statewide usage subscription for all regulated entities. Even though the fee for subscribing to the TCLEDDS application is very reasonable, there will always be some agencies that do not choose to subscribe to the system. If the state were to allocate monies to TCLEOSE for a statewide license, then law enforcement agencies could be required to use the application and there would be no individual charge to them.

Recommended Actions:

- Request statute changes allowing the use of the LEOSE dedicated funds to purchase a statewide license for the use of TCLEDDS by all the TCLEOSE regulated entities and training providers to include ongoing annual maintenance fees; or
- Explore grant options through state or federal partners to fund the purchase of a statewide license and provide the TCLEDDS application to all affected entities.

4.2.3 Conduct a study analyzing state supported development of a business application.

In the event the previous options for risk mitigation indicated in 4.2.1 and 4.2.2 are not feasible, and the contract for services with the current vendor was to be interrupted, the agency should have a viable backup plan for the development of a business application to run state business. The agency should engage an experienced consulting firm to conduct a study to determine the realistic costs of building and operating a comparable business software application. This would allow the state to more easily compare the costs and benefits of the existing contract with the potential costs to create and operate a new system. This study could also determine a fair market value for the existing TCLEDDS product and assist the agency in justifying and documenting its value to the state.

Recommended Actions:

- Engage a consulting firm through the DIR contract vendor list to review the agency's business processes and existing applications including TCLEDDS;
- Determine an estimated cost of creating a full enterprise system from start to end; and
- Determine the cost benefits of creating a new system versus ongoing funding of the existing contract.

4.3 Professionally Redesign the Agency Website.

The agency should completely redesign and refresh its external website to clearly present information in a user-friendly way. The agency should make use of web design standards and guidelines to provide easy navigation and grouping of topics. The use of new graphics, visual aids, fonts, and colors should all be considered in the new design. Adherence to DIR rules regarding accessibility should be included in the structure and content of the site as well.

A professional web design should reflect the quality of the organization, its policies and procedures, the services it provides, and its responsibility to its customers. The creation of a strong brand for the agency through its website is a great opportunity to reflect the organization's characteristics, philosophy, processes, and image, and to build credibility with its customers and within its community.

The redesign process can occur in two phases; the first encompassing an analysis and design activity, and the second to build, develop and deploy a new structure and full content for the site. Both will require that the agency engage a web development contractor to aid in the design and deployment of a new site.

4.3.1 Develop a complete redesign of the website.

In designing the website the agency should engage in a strategic design process that includes:

- defining goals and objectives for the site (what is the purpose of the site in terms of the agency's customers?),
- focusing on the customers in terms of demographics, profession, and technical competency;
- identifying a "brand" for the agency that will project a professional image;
- focusing the design elements to meet the goals of the site;
- measuring the results to determine the most popular and useful information; and
- allowing for continuous, gradual improvement to the site.

Recommended Actions:

- Engage a professional web development contractor to develop the design;
- Engage agency focus groups to ensure that stakeholders are able to provide input into the design;
- Test the design prototype with agency staff and users prior to development and deployment;
- Design the site navigation by relevant topics as well as for known user roles (chief administrator, trainer, or licensee);
- Assign staff to review and revise existing content;
- Develop new content, such as the FAQs, to fill out topic categories;
- Test content for accessibility guidelines.

4.3.2   Deploy the site with content management and analytics capabilities.

The agency should ensure that the new website is developed using the latest tools for maintenance and management including COTS software as appropriate to manage content and to measure the effectiveness of the site. There are several content management systems and website analytical tools available for low or no cost. Several other agencies are operating websites with low-cost tools and could provide advice and expertise regarding website operations.

Recommended Actions:

- Engage a professional web development contractor to develop and implement the new site design;
- Implement a content management system to control updates to the site, allow for versioning of the site, and to provide full quality assurance processes for content development;
- Implement the site with analytical tracking capabilities that will measure the number of visits to the site, the length of time users spend on the site, the most popular content on the site, and other statistics that will aid in optimizing the site.

4.4 Strengthen the Policies and Procedures for IT Systems.

The agency should work on improving the policies, procedures and documentation processes for its IT systems and operations. Most of the policies and procedures in use are adequate and are providing good service to the agency staff and customers, however, it is recommended that the agency continue to build and develop a strong set of procedures and accompanying documentation for the ongoing viability of its systems. These recommendations also cover procedures and documentation concerning contracted vendor services and products.

Security, backup and recovery procedures, and IT inventory management are handled very well by the existing team, however, the lack of experienced backup staff creates a risk for the agency should any of the team members leave. Thorough documentation of the network infrastructure, business systems, user provisioning, and management procedures and processes can reduce the risk of failure should a knowledgeable staff member be unavailable.

Outside vendor support and services for the recommendations below could be utilized to put the appropriate policies and procedures in place more quickly and to strengthen the processes used to maintain and update the procedures. The agency should request support from DIR to determine options for additional services or to identify viable vendor candidates.

The agency is already utilizing the DIR services for Controlled Penetration Testing to test for network and system vulnerabilities, which is free and highly recommended. There are also more comprehensive services through DIR and other vendors that would provide more complete and thorough security testing including more thorough testing of agency software applications.

4.4.1   Develop documentation for all administrative procedures.

The IRM and Network Administrator should work toward completing the following tasks to ensure compliance with State Auditor's Office standards and DIR best practices. DIR should be able to provide additional recommendations regarding policy and procedure development.

Recommended Actions:

- Document procedures for providing and terminating employee access to agency systems and applications;
- Ensure that the granting of individual user rights and access privileges is documented and authorized by the appropriate management staff;
- Document physical security protocols;
- Enhance backup and recovery procedures to include validation and monitoring procedures; and
- Document PC standard configurations and authorized software products.

4.4.2   Develop documentation for all agency web applications.

The agency should ensure that all agency web applications are fully documented regarding architecture, security, user provisioning (the granting of rights and access), and that staff is fully educated on how to manage, maintain, and recover these applications.

Recommended Actions:

- TCLEOSE should request compete documentation from SHSU regarding their development and management of the POSEIT website prior to ending the partnership;
- TCLEOSE should have either the new vendor or an independent contractor (possibly as part of the website redesign) perform an evaluation of the POSEIT application architecture and tools used to manage the website and provide full and updated documentation for the ongoing administration of the site;
- TCLEOSE should work with PCI to ensure that full system recovery procedures are in place for the TCLEDDS application such that agency staff could recover from a severe outage; and
- TCLEOSE should document the current agency external website configuration to determine directory structures, testing areas, and content update procedures to create site stability and to prepare for redesign activities.

4.4.3   Develop a best practice for storing and managing systems documentation.

Train staff and require all vendors to utilize a process for documenting systems and system outages. Create a centralized storage area for documentation related to systems, applications, and general operations.

Appendix A

Texas Commission of Law Enforcement Officer Standards and Education

Technology Performance Review

List of Resources Reviewed

The following resources were used as aids in the compilation of the Technology Performance Review.

1)   Sunset Advisory Commission Staff Report, August 2008.

2)   TCLEOSE Legislative Appropriations Request, Submittal to the 81st Regular Session, July 2008

3)   TCLEOSE Strategic Plan for Fiscal Years 2009-2013, June 2008

4)   2007 State Auditor's Office Report on Performance Measures at TCLEOSE, October 2007

5)   Contract Documents for the TCLEOSE Data Distribution System (TCLEDDS):
      TCLEOSE Request for Information and Quotation, April 24, 1998
      PCI Response to Request for Information and Quotation, May 8, 1998
      TCLEOSE – PCI Software License Agreement, Executed November 1998
      TCLEOSE – PCI Software License Agreement, Executed December 2006
      PCI Change Orders for Software Changes, various dates
      PCI Subscriber Numbers by Category List, November 2008

6)   TCLEOSE Information Resources Deployment Review, submitted to DIR December 2007

7)   TCLEOSE IT Policies and Procedures Manual

8)   TCLEOSE Controlled Penetration Test Remediation Survey, DIR, October 2007

9)   TCLEOSE Data Distribution System (TCLEDDS), Online System Access

10)   TCLEOSE Peace Officer Standards and Education Internet Training (POSEIT), Online System Access

11)   TCLEOSE Current IT Inventory of Servers and PCs

12)   TCLEOSE IT Backup and Recovery Procedures, Implemented February 2008

13)   TCLEOSE LAR Exceptional Item Background Information, Electronic Scanning Proposal

14)   TCLEOSE LAR Exceptional Item Background Information, Telephone System Replacement Quotation

Appendix B

Texas Commission of Law Enforcement Officer Standards and Education

Technology Performance Review

TCLEOSE Data Distribution System (TCLEDDS)

Application Description

Background:

The TCLEOSE Data Distribution System (TCLEDDS) was developed in response to a 1998 Request for Quotation issued by TCLEOSE. Development, hosting, ongoing management, and maintenance were envisioned to be performed by a vendor at no cost to the agency.

Productivity Center, Inc. (PCI) was contracted in November 1998 to produce the TCLEDDS under a ten-year renewable contract. PCI was given sole ownership of the software and associated copyrights and trademarks. In return, PCI was to bear all development and maintenance costs and have the right to collect proceeds for a subscription license for use of the developed system by regulated agencies and licensees. Access to the system was to be provided to TCLEOSE staff at no cost.

The TCLEDDS application was first deployed in 1998. Upgrades have occurred on a regular basis and as needed to support Commission rule changes. A major technology upgrade was deployed in late 2006.

Introduction:

The purpose of TCLEDDS is to store and manage data on law enforcement officer's employment history and to record compliance with required training.

The system is owned and administered by PCI who provides web-based software subscriptions to TCLEOSE regulated entities including police departments, sheriff departments, constables, security providers, and other law enforcement entities as well as to entities certified to provide TCLEOSE approved training classes.

TCLEDDS is used by TCLEOSE staff, law enforcement entities, training providers and individuals to track licensing and education requirements for peace officers, county jailers, and telecommunicators under the jurisdiction of TCLEOSE. All initial education hours required for basic officer licensing and all continuing education requirements are tracked in the system. In addition, the employment history for licensed peace officers and jailers is tracked including new hires, transfers, and terminations.

Training entities are certified by TCLEOSE and tracked in the TCLEDDS. Educational providers including academic institutions, academies (some of which reside within law enforcement agencies), and training contractors are tracked within the system along with all authorized courses conducted for peace officer education. The system keeps track of training by individual licensees for both mandatory and non-mandatory classes. Licensed peace officers are required to complete 40 hours of continuing education classes every two years along with at least two mandatory classes every four years.

Related forms tracked and entered into the system by agencies include:

- L-1 - primary licensing document; filled out at point of hire for each peace officer hired by an agency; filed by law enforcement agency and approved by TCLEOSE.
- F-5 - termination report filed whenever an officer leaves a post for any reason; filed by law enforcement agencies and approved by TCLEOSE.
- F-5R - request for officer history submitted by e-mail or in writing by a law enforcement agency and filled by TCLEOSE staff using TCLEDDS.
- F-7 - used to submit college credit hours for a licensee (or student if not yet licensed); submitted by chief administrators.
- Training Rosters - submitted by Academies and other training entities to record course hours for licensees and students; approved by TCLEOSE
- T-1 - hiring and removal of Telecommunicators
- C-1 - request for Personal ID number for an instructor that is not a licensee.
- A-1 - new Academy students not yet licensed but beginning required training; submitted by Academies only.

Current subscribers of TCLEDDS (law enforcement agencies and training providers) submit little if any paper to TCLEOSE. All of the required forms and filings are submitted through TCLEDDS with the exception of F-5Rs, which are submitted through electronic mail or in writing by Chief Administrators.

Subscription services provide the following levels of access to TCLEDDS data:

- Academy Level - for Academies and other training providers; limited to Roster submittals and A-1s (Academies only).
- Department Level - depending on size of department and cost of subscription, a number of users within a department have access to submit and view all of their own employee records, but not statewide records.
- Individual - licensed officers may also subscribe to track their own training history.
- Statewide Level - departments may pay an additional subscription fee to gain access to view information on all officers statewide.

Technology Review

The TCLEDDS application is hosted at TCLEOSE headquarters on its Intel-based servers, which run the Windows 2003 Operating System. There is both a client based capability, used only by TCLEOSE staff, and a web-based version of the software, used by all licensed subscription users.

There is a separate add-on package named TCLEDDS Assistant that is available from PCI to subscription users. This package is a desktop version of TCLEDDS that offers more robust training tracking and reporting. It is licensed separately and installed on subscribers' desktops.

The TCLEDDS is a multi-tiered application. The web-based interface is maintained in Visual Basic v 6.0 with ASP Classic, the database is SQL Server 2000, and the middle

tier application interface for the reporting process is built using .Net. SQL Server Reporting Services v2000 are used for all reports.

The servers for the TCLEDDS application are located at the TCLEOSE offices. The server configuration includes a database server, web server, and reports server. The server configuration for the TCLEDDS is adequate in terms of sizing, memory, storage, speed and security. The servers are within acceptable range for age, software configurations and are secured within the TCLEOSE server closet.

PCI's plans for the next major technology upgrade include the migration of the database to SQL Server 2005. This will involve changes to database stored procedures and security architecture components. The SQL Server 2005 stored procedures capabilities will allow for the replacement of the .Net code now used for rendering reports. Reporting Services will also be upgraded along with the Database.

Finding:
- PCI should upgrade to SQL Server 2005 database as soon as possible to avoid getting too far behind on the latest technology. The 2008 version of the database is now the latest version, which would put the application two full versions behind.

TCLEDDS Modules

Credentialing
The credentialing component of the software application is designed to record all licensing activities for officers, jailers and telecommunicators. The subscription users of TCLEDDS enter L-1 licensing data directly into TCLEDDS along with F-5 termination forms and T-1 Telecommunicator forms. These forms are approved or rejected online by TCLEOSE staff. Users must proactively check the system for rejections. Hard copy submittals of L-1s, F-5s and T-1s received by TCLEOSE are entered in to the TCLEDDS by staff.

Chief administrators of law enforcement agencies also use TCLEDDS to submit the F-7 form for college credit hours earned by an officer.

Currently, there is no online submittal of the F-5R Officer History Request form within Clods. These forms must be mailed in to TCLEOSE or signed and scanned documents may be e-mailed to TCLEOSE by Chief Administrators.

Testing and Measures
The testing and measures component tracks all training for licensees, approved courses and credits, and compliance with mandatory course credits.

TCLEDDS tracks 299 credentialed training providers. These education entities are made up of academic providers such as colleges and universities, full credentialed academies which may or may not be associated with a law enforcement department, and contract training providers, or for-profit entities. Of the 299 credentialed training providers, 215 are TCLEDDS subscribers and enter all associated training classes

conducted into the TCLEDDS database. Training rosters are submitted by subscribers and reviewed online by TCLEOSE staff. Non-subscriber training rosters are sent in hardcopy to TCLEOSE or submitted via e-mail and are then entered into TCLEDDS by staff.

Basic licensing exams for certification of peace officers and jailers are also tracked in the system. Approved test sites use TCLEDDS to generate and provide the basic licensing exams. TCLEDDS provides for online test taking, and also grades and records student proficiencies immediately upon completion of the basic licensing exams. Approved test sites and Academies can view student pass/fail rates for the basic licensing exams. Currently, basic peace officer and jailer license exams are given at the TCLEOSE offices and at 64 additional certified testing sites throughout the state. The topics, objectives, and test questions required for these exams are managed by TCLEOSE staff based on state requirements. Each testing site uses the TCLEDDS to randomly generate unique tests for each exam sitting. Students take the tests using computers provided at the testing site and receive results on pass/fail immediately upon completion of the exam.

Recent statistics reveal that more than 43,000 training rosters were submitted through TCLEDDS during FY2008. This represents 86% of the total number of training rosters submitted. The number of training rosters submitted online in the TCLEDDS application rose slightly in FY2008 and has been at over 80% for the past three fiscal years.

Overall training classes and hours have increased during FY2007 and FY2008 from the FY2006 training year. These numbers can vary based on the two-year training cycle, with the expectation that the odd-numbered years, which represent the end of the training cycle, will have higher training numbers overall as licensees put in extra effort to complete required training credits. The expectation is that FY2009 training hours will likely be higher than FY2008 since FY2009 also represents the end of a training cycle. FY2007 numbers were likely higher than normal due to a new mandatory training class being added to the training requirements.

The number of training rosters and training hours submitted by fiscal year are shown below with a breakdown of those submitted via the web through TCLEDDS.

Fiscal Year	Total Training Rosters	Rosters Submitted thru TCLEDDS	% submitted thru TCLEDDS	Total Training Hours Reported
2006	35,781	29,433	82%	8,222,821
2007	56,196	46,282	82%	10,440,751
2008	50,198	43,009	86%	10,234,196

Field Operations
The field operations module of TCLEDDS has not been used to date, however, there is a new rollout of functionality scheduled to occur by the end of the 2008 calendar year that will allow TCLEOSE staff to begin tracking enforcement cases in the system. This component will be used exclusively by TCLEOSE staff to initiate, track, and close enforcement cases within the system. This module will replace an internal system based on the combination of an Access database, spreadsheets and Word documents.

Enforcement cases are initiated with the filing of the form E-1, either by an officer or an agency, after an officer has been charged with criminal misconduct. An E-1 may also be generated internally by TCLEOSE staff based on a charge of non-criminal misconduct such as submission of false documents or the falsifying of training records. The investigation of the case will be recorded in TCLEDDS and all relevant information will be entered directly into TCLEDDS, or in the case of hardcopy documents received from outside entities such as District or County Courts, will be scanned and uploaded into TCLEDDS for storage. Disposition of cases will be tracked, including dismissal of charges or the transfer of the case file to Legal Services for further adjudication.

Additional capabilities are under development that would allow for Legal Services to also utilize TCLEDDS to review and track activities related to enforcement actions. Legal Services usually takes over cases from the Enforcement Section, but this transition has not always functioned smoothly because the two sections were using different computing and tracking systems. The addition of the TCLEDDS module to support both Enforcement and Legal Services will streamline the work flow between the two sections and provide for more effective overall Case Management.

Accounting

The accounting module tracks funds received from an officer or agency for a variety of certificates, conferences and other fees. The primarily purpose is to have a quick reference to the fees and requests received by TCLEOSE and is used as a sharing and communication tool. This database component may not be completely synchronized with the official TCLEOSE Accounting system, but the agency business process calls for all staff to enter requests into the TCLEDDS for tracking purposes.

Reporting

PSR - Personal Status Reports are generated from the system for individual officers showing status of the officer's license and a history of completed training.

Individual reports by officer

Department reports for officers

F-5Rs - reports are generated out of TCLEDDS

The TCLEOSE staff has a variety of reporting mechanisms that can be used within TCLEDDS. These include additional report options within the application as well as ad hoc reporting that can be performed directly against the database using Crystal Reports.

Appendix C

Texas Commission of Law Enforcement Officer Standards and Education

Technology Performance Review

POSEIT System Description

TCLEOSE Peace Officer Standards and Education Internet Training (POSEIT)

Background

In approximately 2001, TCLEOSE received a grant from the Governor's Criminal Justice Division to begin the development of a distance learning capability. TCLEOSE began working with the University of Texas to create online courseware and later formed a relationship with Sam Houston State University to create the POSEIT system. Sam Houston State University assisted in the creation of the website, continued the creation of courseware, and developed multi-media education materials. The POSEIT system went live in late 2002 and currently houses 25 courses. TCLEOSE manages the development of courseware through the agency's Education and Training Programs Division, using outside expertise as necessary to create course goals, objectives and topics. Online courses are developed primarily through contract services, however, a few of the courses such as those created for Crime Stoppers or the Amber Alert system, are also hosted within POSEIT.

Introduction

The POSEIT system provides online courses to support peace officer continuing education requirements. The system is used extensively, especially leading up to yearly deadlines for required training. The system delivers multi-media and text based courses over the web and provides online testing and grading of exams. Courses completed in POSEIT are also recorded in the TCLEDDS compliance tracking database automatically.

Course content for the system has been created by TCLEOSE staff with assistance from law enforcement education providers and other experts, and is based on recommended and required standards.

The POSEIT web site and infrastructure is housed at the Austin Disaster Recovery and Operations Center (A-DROC) operated by the Department of Information Resources. The POSEIT is maintained and operated by TCLEOSE. Courseware multi-media development, while initially supported by academic institutions, has now been competitively bid and outsourced to SkillsNet, Inc.

The SkillsNet contract will produce two new courses and the conversion of eight courses from MultiMedia Authorware to Adobe Flash technology.

Technology Review

POSEIT is housed at A-DROC on multiple web servers. Six web servers are set up to handle POSEIT traffic and use a Load Balancer to distribute performance

evenly among the servers. There is also a SQL Server database on a separate machine for storing POSEIT information.

POSEIT is integrated with TCLEDDS to validate Personal ID numbers and to record successful course completion. Intermittent failure of the TCLEDDS update from POSEIT occurs such that not all completed courses are being successfully posted in to the TCLEDDS database. This failure requires manual verification and updates to TCLEDDS. TCLEOSE is implementing a workaround that will force database synchronization between POSEIT and TCLEDDS on a scheduled basis, however, this will not solve the error in the POSEIT system.

Components

Online Training
POSEIT is used by licensees to take continuing education courses in order to fulfill required education credits. Licensed Peace Officers are required to complete 40 training credits every two and two mandatory classes every four years to remain certified for licensing.

Licensed jailers are required to complete one mandatory training course on Cultural Diversity every four years. There are no other continuing education requirements for the jailer license.

POSEIT allows any licensed Peace Officer with a Personal Identification Number to create an account and take offered classes. The PID is validated against the TCLEDDS database for verification purposes to allow users to create accounts. Once an authorized user completes and passes a course in POSEIT, the TCLEDDS training records for that person are updated.

Query and Reporting of Training

POSEIT allows any licensed peace officer with a valid PID to create an account in POSEIT and review his or her training history. POSEIT retrieves the training history from the TCLEDDS database to be presented to the POSEIT user. This query functionality may be completed by any licensee at no cost from the TCLEOSE website. If a licensee's records are up to date in TCLEDDS, then all training activities for that individual are viewable through POSEIT. This information is viewable by the individual officer only.

Performance Measures

Two agency performance measures are tracked and generated from POSEIT:

- Course completion count
- Course hour count