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December 4, 2024

Chris Yarbrough, TDOT Procurement & Contract Division Director; Daniel Leeson, TDOT Procurement & Contract Division Assistant Director

FINAL AUDIT REPORT – FILE NUMBER 2024-PA-01 – Performance Audit of the Procurement and Contracts Division

Attached is the subject audit final report for your review. Your management response to the audit is included as Appendix B in the report. Internal Audit's responses can be found in the Summary of Recommendations in Appendix A.

If you have any questions or wish to further discuss the report, please contact either me at Jessica.marie.hill@tn.gov, or Windle at 615-618-6345, windle.morgan@tn.gov. Thank you for your courtesy, time, and attention provided during the course of this audit.
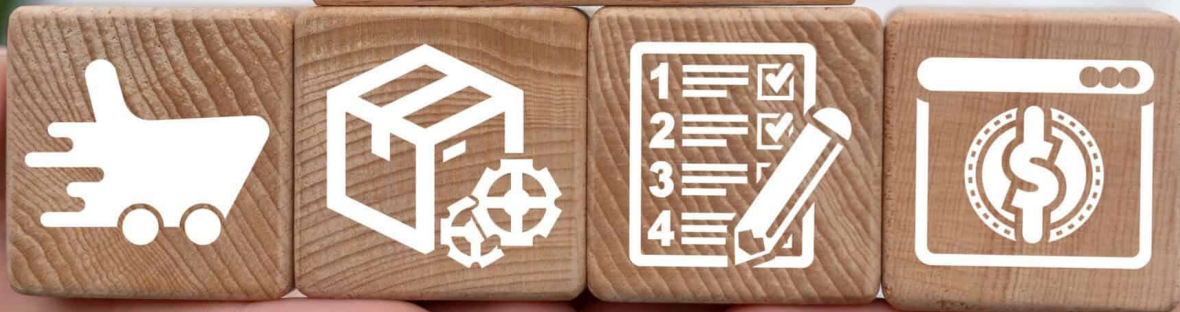
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File Number 2024-PA-01

TN | TDOT
Department of
Transportation

PROCUREMENT

Performance Audit of the Procurement and Contract Division's

Compliance, Training, and Solicitation Process

Tennessee Department of Transportation- Division of Internal Audit

Government Accountability Professionals

Final Report, File Number 2024-PA-01 | **December 4, 2024**

The mission of the Office of Internal Audit is to provide objective analysis and information critical to better decision making and enhancing the overall governance capability within the Tennessee Department of Transportation.

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EXECUTIVE SUMMARY

WHY WE DID THE AUDIT

This review was part of the Fiscal Year (FY) 2024 Internal Audit plan.

OBJECTIVE

The objectives of the audit were to determine whether the program participants (1) were efficient in meeting compliance activity program objectives and reducing purchasing risk, (2) effective in developing training for buyers resulting in improved compliance, and (3) efficient in managing contract lifecycles – from solicitations to contract closure. To achieve the objective, we had to determine the following:

1. Does the compliance activity efficiently meet program objectives?
2. Does the compliance activity serve to reduce purchasing risk?
3. Does the training program improve purchasing compliance?
4. Are contracts managed efficiently throughout the contract lifecycle from solicitation to closure?

SCOPE

The scope of the audit will include walkthroughs, inquiries, observations, examination of documents, and the use of computer-assisted audit tools for evaluating transactions covering the period January 1, 2023 through December 31, 2023.

METHODOLOGY

- Gained an understanding of applicable laws, regulations, policies, procedures, and controls regarding the Procurement and Contracts Division.
- Selected samples of contracts to test the supporting documentation for timeliness, completeness, and accurateness for each solicitation type.
- Evaluated and tested the compliance program process.
- Surveyed buyers about the training and compliance program.
- Interviewed personnel as needed.

WHAT WE FOUND

We found that the Procurement and Contracts Division (PCD) generally has a system of sufficient controls in place over the compliance program, training program, and solicitation process. However, we identified 9 observations where opportunities exist to further strengthen their processes. These areas include:

- Lack of Adherence to Professional Standards or Frameworks,
- Assessment Cycle Could be Improved Utilizing Statistical Sampling,
- Lack of Controls Regarding Queries and Spreadsheet Control,
- Self-Led Online Training Effectiveness,
- Post-Training Testing Could be Improved,
- Inspection and Re-Inspection Reporting Could be Improved,
- Buyer Survey Results Indicated Opportunities for Improvement, and
- Inaccurate Contract Dates in Edison.
- PCD SOP should be updated to reflect current state.

WHAT WE RECOMMEND

Based on the control environment testing we made 20 recommendations for the identified observations in the audit. Recommendations include the PCD (1) choose a professional framework to adhere to and perform their work according to the standards, (2) sample their data based on statistical sampling methods, (3) use data validation methods when downloading queries, (4) use control totals/hash totals when moving sets of data in excel, (5) use spreadsheet controls such as locking formulas and columns and tracking changes, (6) an increase of in-person/virtual training offerings, (7) include more simulation-based activities rather than all multiple choice questions in post-testing, (8) evaluate reports for clarity, flow and logical numbering from the body of the report to the grading rubric which is the basis for calculating the compliance score. All sections of the report should clearly refer to criteria, condition, cause, and effect for which the recommendations are made, (9) compare the buyer list in Edison to the email list PCD currently utilizes and ensure that the email list includes all buyers,(10) regularly solicit recipient feedback to make the content/exercise more useful, (11) ensure all buyers complete the "Foundations in Procurement" training, (12) see Recommendation 6, (13) ensure all buyers have electronic copies of the PCD SOPs and CPO Procurement Manual, (14) ensure all buyers have a dedicated contact for purchasing questions, (15) create training/guide for the support ticket process, (16) follow-up email communication/survey to ensure requestor question was resolved, (17) ensure all buyers involved in the compliance assessment are provided with clear explanations of infractions utilizing the five elements of a finding: criteria, condition, cause, effect, and recommendation, (18) add a fraud notice for awareness to all training materials instructing buyers to notify the Fraud, Waste and Abuse hotline if they suspect fraud, (19) use data validation to ensure the information is complete, accurate, and valid before being able to enter the contract into Edison, and (20) PCD SOP should be updated to reflect current state.

EXECUTIVE SUMMARY

MANAGEMENT RESPONSE

CONCLUSIONS

1. **Does the compliance activity efficiently meet program objectives?**
   Generally, yes. The compliance activity efficiently meets program objectives, but recommended improvements would increase efficiency. The PCD has a lack of adherence to professional standards or frameworks (Observation 1). They also could improve their assessment cycle time by utilizing statistical sampling (Observation 2). In addition, they lack control regarding queries and spreadsheet controls (Observation 3). The PCD SOP should be updated to reflect current state. (Observation 9)

2. **Does the compliance activity serve to reduce purchasing risk?**
   Generally, yes. During the audit we performed testing that compared the original assessment scores to the reinspection scores for the six assessments that failed during the scope period. Of the six assessments that failed and had re-inspections, five business units passed their reinspection. The one that failed the reinspection did improve their score by 26.67% from the original inspection. The increase in scores for all six business units from the previous failing scores demonstrates an increase in compliance and a decrease in purchasing risk.

3. **Does the training program improve purchasing compliance?**
   Generally, yes. Procurement and Contracts training program is improving purchasing compliance. The increase in scores after the failed inspection demonstrates that additional training received after the initial inspection improves purchasing compliance. Self-led online training is offered more often than in-person or virtual training (Observation 4). Self-led multiple-choice testing is utilized more than simulation based post-testing (Observation 5). Inspection and Re-inspection reporting could be improved due to the reports not being clear (Observation 6). Buyer survey results indicated opportunities for improvement (Observation 7).

4. **Are contracts managed efficiently throughout the contract lifecycle from solicitation to closure?**
   Generally, yes. Procurement and Contracts are managing their contracts efficiently through the solicitation process, which is what we focused on during the audit due to PCD not having any significant part of the rest of the contract lifecycle process. However, there was one inaccurate contract date in Edison (Observation 8).

BACKGROUND

The Procurement and Contracts Division provides leadership and oversight for all TDOT purchasing, procurement, and contracting within the authority of the Central Procurement Office. The Procurement and Contracts Division serves as the liaison between TDOT and the State of Tennessee's Central Procurement Office to maximize efficiency, accountability, and stewardship of taxpayer dollars.

The Division's primary focus areas include the following:

1. Ensuring that all TDOT employees are properly trained on procurement rules, polices, and procedures.
2. Validating standard business procedures through quality assurance and advocating procurement best practices.
3. Managing TDOT contract life cycles through dedicated contract management.

Mission:

Actively support TDOT goals by procuring goods and services that maximize competition and fairness while conducting business within state and federal rules and regulations.

Vision:

Become the state agency leader in procurement and contract services that returns extraordinary value to our customers.

Values

- Communication—promotes transparent and open dialogue; asks "who else needs to know?" and fosters accurate and timely information flow.
- Collaboration—actively seeks opportunities to work together in cross-functional areas and considers input from multiple sources.
- Accountability—Responsible for providing both leadership and guidance to internal and external customers.
- Innovation—explores ways to improve organizational effectiveness and efficiency and embraces change.

EVALUATION OF CONTROLS

We evaluated controls by reviewing Division procedural documentation, functional area deliverables, personnel interviews, process walkthroughs, and buyer surveys of the Compliance, Training, and Contract areas. We evaluated these areas and inputs against generally accepted audit, compliance, and government controls standards including:

GAO Green Book – standards for Internal Control in the Federal Government, establishes an effective internal control system for federal agencies. (Adopted by the State of TN in 2016).

GAO Yellow Book – Generally accepted Government Auditing Standards (GAGAS), provides the preeminent standards for government auditing.

IIA Redbook – The International Professional Practices Framework (IPPF) is the conceptual framework that organizes authoritative guidance promulgated by the Institute of Internal Audit (IIA). A trustworthy, global, guidance-setting body, The IIA provides internal audit professionals worldwide with authoritative guidance organized in the IPPF as mandatory guidance and recommended guidance.

ISO 9001 – ISO 9001 is a globally recognized standard for quality management. It helps organizations of sizes and sectors to improve their performance, meet customer expectations, and demonstrate their commitment to quality. Its requirements define how to establish, implement, maintain, and continually improve a quality management system (QMS).

Compliance – The compliance team is charged with validating that purchased goods and services follow standard business procedures. To achieve this goal the compliance team performs business unit assessments reviewing every purchasing transaction in a defined six-month scope. The inspection cycle has been condensed from an 8-week to 7-week cycle.

- Week 1 – Compliance inspector downloads scoped transactions for review two weeks prior to sending notice to business unit.
- Week 2 – Data inspection and status updates with compliance team.
- Week 3 & 4 – Notify business unit of inspection and socialize scoped data and preliminary findings.
- Week 5 – Teams meetings with business unit buyers to go over initial findings and solicit responses due by week's end.
- Week 6 – Compliance team will review responses from business unit and provide input.
- Week 7 – Site visit to business unit for in person brief including management.

Assessment resulting in compliance of less than 60% will be reinspected in six months. The compliance team consists of three specialists.

Training – The training team is charged with **e**nsuring that all TDOT buyers are properly trained on procurement rules, polices, and procedures. To achieve this the team develops training for all buyers. Buyers are required to complete a one-time self-led module through Edison, called "Foundations in Procurement". There are additional self-led training courses offered on the Procurement sharepoint site but these are not required. The training team also sends out twice monthly "Ace-the-Audit" emails for additional procurement awareness.

Contracts – The contracts team is charged with managing TDOT contract life cycles through dedicated management. For solicitations over $100,000, the team is the primary TDOT point of contact with the CPO (Central Procurement Office). The team will provide input to the CPO to determine the correct contracting method and then create forms for the customer to present to Legal. The three different methods are:

1. ITB (Invitation to Bid), request for contractors to submit a proposal for a specific product or service on a project.[1]

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[1] https://www.investopedia.com/terms/i/invitation-for-bid.asp

2. RFP (Request for Proposal), business document announces a project, describes it, and solicits bids from contractors to complete it.[2]
3. RFI (Request for Information) formal process for gathering information from potential suppliers of a good or service.[3]

The timelines for these are unique to the method and customer response rates. Each method requires completed forms and begins either by email, phone, or direct access to the procurement sharepoint site. Receipt of the completed form marks the official request and start date of the process. Once started, email communication is utilized.

FINDINGS & TESTING

Observation 1: - Lack of Adherence to Professional Standards Framework

During the fieldwork of the audit, we performed procedures where we:

- Researched different professional standards and frameworks (GAO's Green Book, the GAO's Yellow Book, the IIA's Red Book, and the ISO 9001) and compared against the procurement compliance assessment process. Following a professional framework would be helpful for procurement to make their work product more uniform and able to stand up to a quality peer review. Based on the current way the work is performed, internal audit cannot rely on the work. Within the context of internal audit, reliance relates to reducing the volume or extent of internal audit work when the work performed by others meets certain standards.[4] Procurement has strategically decided not to use a professional framework for their work.

- Evaluated the consistency of the formatting and ease of use of the assessment work papers and evaluated the test work tabs for documentation/support, criteria, and evidence of spreadsheet control. The results indicated an inconsistency within their working papers. Some examples included a lack of headers on any of the spreadsheet tabs with legends to show what criteria they utilized for the tab or identification of their color-coding system, and they do not provide an explanation on every infraction for audited personnel.
Evaluated the assessment reporting for quality control including whether there was a documented fact check and review process of their working papers and reports. Through inquiry we learned that there is a review process, but we were unable to verify this review process. We reviewed the assessment folder files for evidence of a review process and for evidence of a fact check, and while there was some evidence of a back-and-forth email process there was no evidence that everything in the report tied back to documented review notes. Because they issue findings in their reports, we also evaluated their reports to determine if they have all elements of a finding. Elements of a finding for government audits include: condition, effect, cause, criteria, and recommendations. The PCD final reports also contain recommendations and corrective action

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[2] https://www.investopedia.com/terms/r/request-for-proposal.asp
[3] https://www.financestrategists.com/tax/business-entity/request-for-information-rfi/
[4] https://www.journalofaccountancy.com/issues/2018/mar/effective-internal-audit.html A More Effective Approach for Internal Audit

plans. If corrective actions are issued, they should be developed so that the client understands the why, what, how, who, and when to fix the problem.

We examined graded assessment categories for elements of a finding in Table 1.

Table 1 – % of Graded Assessment Categories containing Elements of a Finding

Assessment Categories	Condition	Effect	Cause	Criteria	Recommendation
Training	100%	0%	0%	0%	100%
Annual Attestation	100%	0%	0%	100%	100%
Doc Type	100%	0%	0%	100%	100%
Item ID	100%	0%	100%	100%	100%
Off-Contract Purchase	100%	0%	0%	100%	100%
Using Wrong Contract	100%	0%	100%	0%	100%
Account Codes/Sensitive Items	100%	0%	50%	100%	100%
Quotes and Estimates	100%	0%	0%	100%	100%
Split Purchases	100%	0%	0%	100%	100%
Recurring LPA	100%	0%	0%	100%	90%

As noted above, compliance assessment results do not have all the elements of a finding in their report. For better understood and more effective findings, we recommend that all contain the elements of a finding to better help clients understand the results and call for action.

Criteria: GAO Yellowbook 8.116, Green Book Principle 10, Attribute 10.02 and 10.03, Principle 11, Attribute 11.05

Recommendation 1: We recommend that the PCD choose a professional standard/framework to add credibility to the execution of the work for greater reliance on the results.

Observation 2: - Assessment Cycle Could be Improved Utilizing Statistical Sampling

During the fieldwork of the audit, a procedure was performed comparing record count using a statistical sample versus testing every transaction in the scope period. Table 2 demonstrates the efficiency and effectiveness of scientific sampling.[5]

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[5] https://www.techtarget.com/searchbusinessanalytics/definition/data-sampling What is Data Sampling?

Table 2 – Statistical Sampling Size Comparison

Record #	Compliance Visit Location	Transactions Tested	Sampling at Confidence Level 98%; Margin of Error 5%	Sampling at Confidence Level 95%; Margin of Error 5%	Sampling at Confidence Level 95%; Margin of Error 10%
1	District 48	1577	405	310	91
2	District 47	1821	419	318	92
3	Region 4 Complex	3591	472	348	94
4	District 39	1934	425	321	92
5	District 38	2464	446	333	93
6	District 37	2358	442	331	93
7	Region 3 Complex	4081	480	352	94
8	District 17	1808	418	317	92
9	District 18	1709	413	314	91
10	District 19	1193	374	291	89

Criteria: See footnote, Green Book Principle 11, Attributes 11.03, 11.04, 11.05

Recommendation 2: We recommend that the Procurement and Contracts Division utilize a sampling based methodology to improve assessment cycling time.

Observation 3: - Lack of Controls Regarding Queries and Spreadsheet Controls

Data Validation - During the fieldwork of the audit, we evaluated the use of data validation[6], control totals[7], and spreadsheet controls[8] by the compliance assessment team. Through inquiry we determined that the Procurement and Contracts Division does not do any data validation of the data that they receive through Edison queries. We saw an example of data where the assessment data set was for six months of purchase transactions per scope, and the data results ranged from January 3, 2023, through June 22, 2023. For this example, we assume that the data was run for the period of January 1. 2023 to June 30, 2023, for a six-month set of data. Reasons for gaps in the data set could be justifiable such as the holidays at the beginning of the year and year end close out at the end of the period. A data validation check for this to ensure all data was captured would be to run query for January 1-3, 2023 and June 22 - 30, 2023 to ensure all data was captured in the full data range.

Spreadsheet control - Spreadsheet control is also important. The PCD shares many spreadsheets with their clients, but they lack basic controls such as password access. In addition, spreadsheets should be locked down to just the columns that the client is able to edit so undesirable changes can't be made,

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[6] https://corporatefinanceinstitute.com/resources/data-science/data-validation/ Data Validation
[7] https://www.allbusiness.com/barrons_dictionary/dictionary-control-totals-4949423-1.html
[8] https://www.deloitte.com/uk/en/services/risk-advisory/blogs/2023/spreadsheet-controls-are-your-spreadsheets-exposing-your-organisation-to-unmitigated-risks.html Spreadsheet Controls

and work cannot be altered.[9]

Criteria: See footnote, Green Book Principle 11; Attribute 11.05 and 11.11

Recommendation: (3) We recommend that the Procurement and Contracts Division use data validation methods such as consistency checks to ensure that the data range is captured. (4) We recommend that they use control totals/hash totals when moving sets of data from sheet to another in excel. (5) We recommend using spreadsheet controls such as locking formulas and columns and tracking changes since the PCD utilizes shared workbooks with clients and relies on commentary back in the comments of certain columns in the workbooks.

Observation 4: - Self Led Online Training Effectiveness

During the fieldwork of the audit, we researched comparisons of self-led online training versus in-person or virtual training for learning and knowledge retention. Virtual and in-person training has shown to be the most effective.[10] In-person/Virtual training engages learners and creates a more focused, attentive education experience enabling real-time feedback and responsive dialogue.[11] There are creative ways to take advantage of the benefits of audience engaged in-person/virtual learning without physical attendance.[12]

Criteria: See footnote, Greenbook Principle 4, Attribute 4.05, and Principle 10, Attribute 10.03

Recommendation 6: We recommend an increase of in-person/virtual training offerings. This will allow real-time questions and answers for participants and will also provide valuable feedback to the training staff on educational material improvements. For maximum program training effectiveness, all training should have some available in-person/virtual dates for buyer engagement and knowledge retention.

Observation 5: - Post-Training Testing Could be Improved

Post testing is a crucial component of compliance training since it helps employees successfully apply their new skills to their jobs.[13] During the audit, we researched post-training testing effectiveness techniques. The research indicated that recall of information on self-led multiple-choice testing isn't the best way to ascertain training effectiveness for learning a process.[14] Currently, the PCD utilizes self-led post training multiple choice tests to receive credit for taking the class. The PCD indicated that self-led testing was the easiest testing platform administratively. However, our research indicated for maximum training effectiveness, post-tests should mimic real-life scenarios using interactive simulations, rather than multiple choice questions. Not only will it require employees to demonstrate application of trained materials, it will

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[9] https://www.universalcpareview.com/ask-joey/what-are-spreadsheet-controls/ What are Spreadsheet Controls?
[10] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9769479/ Remote and In-Person Learning: Utility Versus Social Experience
[11] https://www.linkedin.com/pulse/procon-live-vs-recorded-trainings-lance-a-simon-cgmp-cvep Pro/Con: Live vs. Recorded Trainings
[12] https://unity.edu/articles/online-vs-in-person-classes/ Online Vs In-Person Classes: Is One Better Than The Other?
[13] https://flearningstudio.com/pre-and-post-course-testing/ Course Testing Before and After Rolling Out: What, Why & How
[14] https://flearningstudio.com/pre-and-post-course-testing/ Course Testing Before and After Rolling Out: What, Why & How

also provide feedback to both learner and trainer on improvement opportunities for knowledge retention and training enhancements.[15]

Criteria: See footnote, Greenbook Principle 4, Attribute 4.05, and Principle 10, Attribute 10.03

Recommendation 7: We recommend the post-testing include more real-life scenarios using simulation-based simulations rather than all multiple choice questions.

Observation 6: - Inspection and Re-inspection Reporting Could Be Improved

There were six initial inspections during the scope period that had a required re-inspection due to an initial failing score.[16] We examined those assessment and reinspection reports (District 48, District 47, District 37, District 18, Region 4, and Region 3). The purpose was to determine if infractions noted during the initial inspection were reported to field personnel with specific criteria and remedies explained making it clear to facilitate necessary corrections for re-inspection. There was 1 operating unit, Region 4, that failed the re-inspection.[17]

In reviewing the reports there were several items of note:

- The origin was not clearly explained for information cited in the **"Items of note that were not included in the overall score but require immediate attention"** section. These items were noted as roman numerals I. through VI. with corrective action responses without clear recommendations.
- The **"Categories included in the overall score"** section of the report had a numbering convention that did not correlate with the sequence in the grading rubric.
- There were 11 categories in **"Categories included in the overall score"** section and 8 non-numbered categories in the grading rubric.
- Off-contract & Wrong contract categories were separated in the **"Categories included in the overall score"** section but combined in the grading rubric.
- Recommended courses of actions and corrective action plans have no due dates for completion in the report.
- The Grading Rubric section has no title for the added table.
- We noted one re-inspection score, Region 4, that had an incorrect compliance % sum compared to the individual category totals.[18]

In summary, although infractions, examples, and suggested training seemed to be referenced in the "**Categories included in the overall score**" section, the Inspection and Re-Inspection Reports are hard to follow and tie back to the grading rubric. These reports contain a lot of information making it difficult to be clear and concise. If report recipients cannot easily connect the infraction with the inspection items, they

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[15] https://www.vectorsolutions.com/resources/blogs/testing-employees-after-training/ Testing Employees After Training: Best Practices for Workforce Training Assessment

[16] F.1.6a_District_48_Signed_CAP, F.1.6c_Signed_CAP_D47, F.1.6i_District_37_Signed_CAP, F.1.6n_D18_CAP_Final_Revision, F.1.6e_R4_Corrective_Action_Plan_Signed_6_14_23, and F.1.6k_CAP_Region3_CMPLX

[17] F.1.6f_R4_Complex_Final_Report_Reinspection

[18] F.1.6a_District_48_Signed_CAP, F.1.6c_Signed_CAP_D47, F.1.6i_District_37_Signed_CAP, F.1.6n_D18_CAP_Final_Revision, F.1.6e_R4_Corrective_Action_Plan_Signed_6_14_23, and F.1.6k_CAP_Region3_CMPLX

won't know how it affects each graded category. Understanding the need for corrective actions should create buy-in to accomplish greater purchasing compliance.

Criteria: See Footnote, Greenbook Principle 14

Recommendation 8: We recommend evaluating the reports for clarity, flow, and logical numbering from the body of the report to the grading rubric which is the basis for calculating the compliance scoring. All sections of the report should clearly refer to criteria, condition, cause, and effect for which recommendations are made.

Observation 7: Buyer Survey Results Indicated Opportunities for Improvement

Internal audit anonymously surveyed buyers on various elements pertaining to the PCD compliance program. The purpose was to gain an understanding of the compliance program as viewed through the lens of the buyers to provide the PCD with meaningful feedback for consideration. Below are summarized survey results and accompanying recommendations:

Table 3: Survey Responses Buyer Tenure

Buyer Tenure	0-3 yrs.	3-6 yrs.	6-10 yrs.	10+ yrs	Unsure	Totals
Count	23	13	24	24	2	86
Percentage	27%	15%	28%	28%	2%	100%

Table 4: Buyer Responses Regarding Ace the Audit Emails

Ace the Audit Emails	#	%
Buyers that do not receive email	1/86	1%
Buyers that receive emails and find useful	66/85	78%
Buyers that receive emails but don't find them useful	19/85	22%

Recommendation(s) - Consider the following:

Ace the Audit Emails

9. Compare the buyer list from Edison to the email distribution list Procurement currently utilizes to ensure sure all buyers receive program emails.
10. Regularly solicit recipient feedback to make the content/exercise more useful.

Table 5 – Buyer Responses Regarding Procurement Training

Training	#	%
Buyers did not complete Foundations in Procurement Training	1/86	1%
Buyers felt in-person/instructor led training would provide the best learning experience	63/86	74%
Buyers felt the training they have received is what helped compliance	60/85	71%
Buyers thought the Foundations in Procurement training was not adequate	25/85	29%
Purchasing process is not easy to follow or doesn't have clear instructions	56/86	65%
Admitted to creating a voucher they were unsure followed policy	35/86	41%

Recommendation(s) - Consider the following:

Training

11. Ensure all buyers complete the "Foundations in Procurement Training".
12. See Recommendation 6

Table 6 – Responses Related to SOP/Manual Accessibility

SOP/Manual Accessibility	#	%
Don't have access to the PCD SOP	2/86	2%
Rarely/never use the PCD SOP to make a purchasing decision	24/85	28%
Don't have access to the Procurement Manual of the CPO	11/86	13%
Rarely/never use the CPO Procurement Manual for purchasing decisions	35/78	45%

SOP/Manuals

13. Ensure all buyers have electronic copies of the PCD SOPs and the CPO Procurement Manual.

Table 7 – Responses Related to Purchasing Support

Purchasing Support	#	%
No contact for purchasing questions	11/86	13%
Don't know how to put in a support ticket	34/86	40%
Quality of information provided for a support ticket wasn't great	8/26	31%

Recommendation(s) - Consider the following:

Purchasing Support

14. Ensure all buyers have a dedicated contact for purchasing questions.
15. Creating training/guide for the support ticket process.
16. Follow-up email communication/survey to ensure requestor question was resolved.

Table 8 – Responses Related to Compliance Assessments

Compliance Assessments	#	%
Been through a compliance assessment:	61/86	71%
Didn't know of any infractions or information wasn't shared with them	10/61	16%
Infractions weren't explained clearly	12/55	22%

Compliance Assessments

17. Ensure all buyers involved in the compliance assessment are provided with clear explanations of infractions utilizing the five elements of a finding: criteria, condition, cause, effect, and recommendation.

Table 9 – Response Related to Fraud Reporting

Fraud Reporting	#	%
Have no idea where or how to report purchasing fraud	13/86	15%

Fraud Reporting

18. Add a fraud notice for awareness to all training materials to instructing buyers to notify the Fraud, Waste, and Abuse hotline if they suspect fraud.

Criteria: Highbond Survey Results in Excel Sheet- FINAL Procurement_Training_Data_1, Greenbook Principle 3, Principle 4, Attribute 4.05, Principle 8, Principle 10, Attribute 10.03, Principle 13, Attributes 13.04 and 13.05, and Principle 14, Attributes 14.02 and 14.03, and Principle 17

Observation 8: - Inaccurate Contract Dates in Edison

We performed one procedure during the fieldwork of the audit where we evaluated a sample of contract documentation for timeliness, completeness, and accurateness for each solicitation type. From the sample only one contract was not accurate between the documentation and the Edison entry. Contract 80912 had documentation uploaded and provided that was titled 511_FA_Contract_Executed_40100-50090_80912_new_date that provided the signed contract with new dates[19].

Criteria: See footnote, Green Book Principle 11

Recommendation 19: We recommend that the Procurement and Contracts Division use data validation to ensure the information is complete, accurate, and valid before being able to enter the contract into Edison.

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[19] F.3.1d_511_FA_Contract_Executed_40100-50090_80912, F.3.1e_511_FA_Contract_Executed_40100-50090_80912_new_date.

Observation 9: - PCD SOP Should be Updated to Reflect Current State

When reviewing the PCD SOP manual we evaluated the manual against the current state working/strategic priorities of the Division. We determined that certain aspects of the SOP contained strategic priorities that have not yet come to fruition due to the EPIC timeline and management direction. Wording related to what constitutes a buyer under the purview of the PCD and Compliance Assessment scope should be updated/corrected in the SOP or by using a temporary addendum.

Criteria: PCD SOP Manual

Recommendation 20: Update the PCD SOP to the current state strategic and management priorities to accurately reflect relevant objectives and operating procedures.

GENERAL AUDIT INFORMATION

GOVERNMENT AUDITING STANDARDS COMPLIANCE

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on the objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective(s).

SCOPE

The scope of the audit was covering the period of January 1, 2023, through December 31, 2023.

METHODOLOGY

The objective of the audit was to determine the program participants (1) were efficient in meeting compliance activity program objectives and reducing purchasing risk, (2) effective in developing training for buyers resulting in improved compliance, and (3) efficient in managing contract lifecycles – from solicitations to contract closure. To achieve the objectives, we performed the following:
- Gained an understanding of applicable laws, regulations, policies, procedures, and controls regarding the Procurement and Contracts Division.
- Selected samples of contracts to test the supporting documentation for timeliness, completeness, and accurateness for each solicitation type.
- Evaluated and tested the compliance program process.
- Surveyed buyers about the training and compliance program.
- Interviewed personnel as needed.

Criteria

- Standards for Internal Controls in the Federal Government (GAO Green Book)

DEFINITION OF SIGNIFICANCE

To evaluate the significance of audit findings we used both quantitative and qualitative factors.

The qualitative factors used in evaluating the significance of a finding was whether the finding has:

- Non-compliance with Procurement and Contracts Division policies and procedures;
- Non-compliance with Tennessee statutes related to procurement activity;
- Unmitigated control gap or multiple control gaps that systemically affect compliance with departmental policy or procedure; and
- Any fraud, misuse, or abuse related to the procurement activity.

The quantitative measures used in evaluating the significance of a finding for this audit are:

- An error rate exceeding 10% of compliance assessment objectives;
- An error rate exceeding 10% of overall training program objectives;
- An error rate exceeding 10% of contract management versus objectives.

AUDIT TEAM

Jessica Hill, CIA

Julianna Noone

Nichole Wellman

SUMMARY OF RECOMMENDATIONS

1. We recommend that the PCD choose a professional standard/framework to add credibility to the execution of the work for greater reliance on the results.

   PCD Response: The PCD has made a strategic decision not to adopt specific professional frameworks, such as the referenced GAO's Green Book, GAO's Yellow Book, IIA's Red Book, or ISO 9001. The PCD believes aligning with audit-specific standards may not be directly applicable to the unique objectives and scope of the PCD's compliance efforts.

   That said, we recognize the importance of uniformity and clarity in our documentation. The PCD is committed to enhancing the consistency of our working papers. In addition, while the PCD has established an internal review process, we acknowledge the importance of providing verifiable evidence of this process. As such, we will work toward improved documentation of our review activities. Regarding report content, we understand the value of documenting all elements of a finding to facilitate a clearer understanding for our clients. While we currently cover most of these elements in our Corrective Action Plan document and all these elements in our out briefs, we will integrate the condition, effect, cause, criteria, and recommendations more formally within our final reports.

   Internal Audit Response: We do not concur with management's response. If the PCD is going to continue to perform compliance audits, they should choose a professional framework to adhere to in guiding their work.

2. We recommend that the Procurement and Contracts Division utilize a sampling-based methodology to improve assessment cycling time.

   PCD Response: To be discussed further among PCD leadership, and potentially Joe and/or his successor.

   Internal Audit Response : We partially concur with management's response. Sampling is an industry standard and accepted by every audit governing body as the most efficient and effective way to conduct audit work. The science behind sampling clearly shows that PCD would be more agile if they adopted a sampling methodology.

3. We recommend that the Procurement and Contracts Division use data validation methods such as consistency checks to ensure that the data range is captured.

   PCD Response: The PCD can perform data validation when gaps appear at the beginning or end of a six-month period. The example referenced and the justifiable reasons provided are factual: state holidays mark the start of each year, which explains the absence of data at the very beginning, and the TDOT FY24 Closing schedule designated June 18 as the last day to create FY24 requisitions, with Friday, June 21, as the final day for approvals.

   Internal Audit Response:
   We concur with management's response.

4. We recommend that they use control totals/hash totals when moving sets of data from sheet to another in excel.

    PCD Response: No response.

    Internal Audit Response: We recommend the use of control total verification when moving data sets.

5. We recommend using spreadsheet controls such as locking formulas and columns and tracking changes since the PCD utilizes shared workbooks with clients and relies on commentary back in the comments of certain columns in the workbooks.

    PCD Response: The PCD can ensure that spreadsheet controls, such as password-protected access, are in place to limit data manipulation to authorized PCD personnel only.

    Internal Audit Response: We concur with management's response.

6. We recommend an increase of in-person/virtual training offerings. This will allow real time questions and answers for participants and will also provide valuable feedback to the training staff on educational material improvements. For maximum program training effectiveness, all training should have some available in-person/virtual dates for buyer engagement and knowledge retention.

    PCD Response: On page 2 of the Audit Report, within the 'Training' section, there is a comment stating: '*Buyers are required to complete a one-time self-led module through Edison, called "Foundations in Procurement." Additional self-led training courses are offered on the Procurement SharePoint site, but these are not required.*"

    The referenced "Foundations in Procurement" training refers to CPO's self-led module. In contrast, PCD's "TDOT Foundations in Procurement" is an in-person only, two-day class. Additionally, several self-led training courses offered on the Procurement SharePoint—such as ART Review, Blanket Purchase Order, Certificates of Insurance, Payment and Performance Bonds—are indeed required, as outlined in our standard operating procedures. These videos are available on our SharePoint for reference but do not contain the quiz within TDOT's learning network used to track completion.

    With two trainers allotted to the division, the PCD conducts the following classes in-person or virtually with an instructor: TDOT Foundations in Procurement, Blanket Purchase Order, Supervisor Training, Writing Specifications, and Focused Training following failed Compliance inspections. The PCD will consider expanding instructor-led, in-person or virtual classes for other training offerings.

    Internal Audit Clarification:

    At the time of this review, PCD had not updated their manual to reflect the requirements stated above.

    The below language is from the most recent manual at the time of our review. *Buyer: TDOT employees who have purchasing roles in Edison and process FSCM Requisition and Purchase Order transactions. For the purpose of CPO policies and training requirements, the term "buyer" is interchangeable with "Procurement Professional".*

"5.1. Training Requirements
Unless a written exemption has been provided by the PCD, all personnel with Edison purchasing roles <mark>*(Buyers*</mark>*) will complete both the Central Procurement Office *Professional Certification Program Level I and the TDOT Procurement Foundations Series within 6 months of their start date or the date Edison purchasing roles were assigned. (*CPO Foundations in Procurement will meet this requirement for buyers hired after October 1, 2021)*
Procurement Officer II will complete both CPO and PCD's Specification Writing Course within 12 months of their appointment to this position."

As a result, Internal Audit expected to see training requirements for all "buyers" as stated in the PCD SOP Manual and this was not the case. PCD strategically excludes some "buyers", as defined in their SOP, from training requirements. Survey results indicated that some buyers, as defined in their SOP, had not received training.

Internal Audit Response:
We concur with management's response however given that 74% (63/86) of surveyed PCD constituents prefer in person training, expanding in-person delivery seems critical to program success.

7. We recommend the post-testing include more real-life scenarios using simulation-based simulations rather than all multiple-choice questions.

    PCD Response:
    The PCD will explore and consider post-tests that replicate real-life scenarios through interactive simulations.

    Internal Audit Response:
    We concur with management's consideration but urge the PCD to implement additional post-test improvements to gauge training effectiveness and knowledge retention.

8. We recommend evaluating the reports for clarity, flow, and logical numbering from the body of the report to the grading rubric which is the basis for calculating the compliance scoring. All sections of the report should clearly refer to criteria, condition, cause, and effect for which recommendations are made.

    PCD Response:
    The PCD recognizes the importance of uniformity and clarity in our documentation. The PCD is committed to enhancing the consistency of our working papers. Regarding report content, we understand the value of documenting all elements of a finding to facilitate a clearer understanding for our clients. While we currently cover these elements in our out briefs, we will integrate the condition, effect, cause, criteria, and recommendations more formally within our final reports.

    Internal Audit Response:
    We concur with management's response.

9. Consider comparing the buyer list from Edison to the email distribution list Procurement currently utilizes to ensure sure all buyers receive program emails.

PCD Response: Given the unique setup at TDOT—where some staff hold purchasing roles solely to enable TDOT Finance to enter purchases on their behalf in Edison, and procurement roles are required for purchases outside the purview of the Central Procurement Office and PCD (such as right-of-way, land acquisition, or professional services)—the PCD will continue evaluating the current email distribution list to ensure that the most relevant buyers receive updates.

Internal Audit Response:
We concur with management's response.

10. For "Ace the Audit Emails", consider regularly soliciting recipient feedback to make the content/exercise more useful.

   PCD Response:
   The PCD will consider regularly soliciting recipient feedback to make the content/exercise more useful.

   Internal Audit Response:
   We concur with management's response.

11. Consider requiring all "buyers", as defined in the PCD SOP, complete the "Foundations in Procurement Training.

   PCD Response:
   Given TDOT's unique structure—where some staff hold purchasing roles solely to enable TDOT Finance to enter purchases on their behalf in Edison, and procurement roles are required for transactions outside the scope of the Central Procurement Office and PCD (such as right-of-way, land acquisition, or professional services)—the PCD will assess the implications of requiring staff to complete training that may not align with their purchasing responsibilities, policies, and procedures, and will make an informed decision.

   Internal Audit Response:
   We do not concur with management's response. Training is an essential control in the purchasing function and ensuring that all buyers complete the training should be a requirement.

12. See Recommendation 6.

   PCD Response:
   With two trainers allotted to the division, the PCD conducts the following classes in-person or virtually with an instructor: TDOT Foundations in Procurement, Blanket Purchase Order, Supervisor Training, Writing Specifications, and Focused Training that occurs following failed Compliance inspections. The PCD will consider expanding instructor-led, in-person or virtual classes for other training offerings. We will work to incorporate more opportunities for focused virtual trainings that would allow for buyers to ask questions for trainings that are not typically in-person.

   Internal Audit Response:
   See response to Recommendation 6.

13. Ensure all buyers have electronic copies of the PCD SOPs and the CPO Procurement Manual.

   PCD Response:
   The PCD SOP is available on the PCD SharePoint under the Customer Library tile. We emphasized this resource among many other resources available to the procurement professionals in our TDOT Foundations in Procurement Training. We recommend that procurement professionals access the SOP directly through SharePoint rather than saving an electronic file on their desktop. This ensures they are always reviewing the latest version. The CPO Procurement Manual is also accessible on the PCD SharePoint under the Resources Links tile. For the same reason, we encourage procurement professionals to access the CPO Manual through SharePoint to guarantee they are referencing the most current document.

   Internal Audit Response:
   We concur with management's response, however, since 15% (13/86) of your constituents indicated that they did not know how to access PCD/CPO manuals, alternate methods should be implemented.

14. Ensure all buyers have a dedicated contact for purchasing questions.

   PCD Response:
   We have a dedicated FTE that is currently providing high-level support to all procurement professionals across the State, but he is the main point of contact and resource for the PO2 procurement leaders in the field. Post EPIC, there will be a dedicated person on-site and in each Region to provide a more granular level of support in a more proactive manner. The PCD successfully advocated for the hiring of 12 additional Procurement Officer 2 positions, bringing the total to 16, including the 4 already established within the Region Garages. Each of these 16 positions serves a designated district or regional complex and acts as the primary contact for purchasing questions within their respective areas. Additionally, the PCD maintains a general procurement email, tdot.procurement@tn.gov, which anyone can use for purchasing-related needs or inquiries. This email is connected to an internal Zendesk ticketing account to help monitor the status of all correspondence received. The PCD also has a dedicated Customer Service Support Request tile on the PCD SharePoint, where purchasing inquiries and requests can be submitted and routed through an internal Formstack account.

   Internal Audit Response:
   We partially concur with management's response. Although the PCD lays out a post EPIC plan, they should devise a current plan to bolster purchasing support to ensure buyers/constituents are correctly served to minimize purchasing misunderstandings. Survey results indicated that 13% (11/86) did not have a purchasing contact.

15. Creating training/guide for the support ticket process.

   PCD Response:
   PCD maintains a general procurement email, tdot.procurement@tn.gov, which anyone can use for purchasing-related needs or inquiries. Behind the scenes, tickets are automatically created to ensure that PCD captures all support inquiries, enabling us to track the volume and types of requests, identify patterns, maintain a history for backup purposes, and ensure procurement support requests don't fall

through the cracks. PCD will continue to emphasize the need for TDOT staff to email tdot.procurement@tn.gov for any procurement-related needs or inquiries they may have.

Internal Audit Response:
We partially concur with management's response. Emphasizing the need to use an email inbox does not compensate for instructions on creating a ticket that could be sent out to make the support ticketing process easier and more approachable. Survey results indicated that 40% (34/86) do not know how to submit a ticket.

16. Support ticket follow-up email communication/survey to ensure requestor question was resolved.

    PCD Response:
    When emails are sent to PCD, they are automatically forwarded to the PCD Zendesk account, where tickets are created. When PCD responds to these tickets, the responses are sent via Zendesk to the requestor's email, ensuring all communication includes follow-up emails.
    Regarding surveys, PCD sends out support surveys multiple times a year to procurement officers for feedback, as achieving a customer satisfaction score of at least 80% is a key work outcome for the PCD Support Manager. PCD will explore additional ways to survey individuals submitting requests, such as embedding a survey automatically when closing out tickets in Zendesk, following confirmation from the requestor that their request has been resolved.

    Internal Audit Response:
    We concur with management's response.

17. Ensure all buyers involved in the compliance assessment are provided with clear explanations of infractions utilizing the five elements of a finding: criteria, condition, cause, effect, and recommendation.

    PCD Response:
    Please see responses to both Recommendation 1 and Recommendation 8.

    Internal Audit Response:
    Please see responses to both Recommendation 1 and Recommendation 8.

18. Add a fraud notice for awareness to all training materials instructing buyers to notify the Fraud, Waste, and Abuse hotline if they suspect fraud.

    PCD Response:
    PCD will consider incorporating this into all relevant training sessions.

    Internal Audit Response:
    We concur if consideration results in implementation.

19. We recommend that the Procurement Contracts Division use data validation to ensure the information is complete, accurate, and valid before being able to enter the contract into Edison.

PCD Response:
The PCD will use data validation to ensure the information entered, regardless of whether it's CPO or TDOT, is complete, accurate, and valid before entering the contract into Edison for the Department, CPO, and Comptroller to approve.

Internal Audit Response:
We concur with management's response.

20. Update the PCD SOP to the current state strategic and management priorities to accurately reflect relevant objectives and operating procedures.

PCD Response:
PCD conducts annual reviews of the SOP to update relevant information. Given that EPIC is continually evolving the operational landscape across the entire department, PCD intends to revisit the SOP to align current strategic and management priorities, ensuring it accurately reflects relevant objectives and operating procedures following EPIC implementation.

Internal Audit Response:
Please see the Internal Audit clarification for Observation 4. Although the SOP document received an update on 11/29/2024, it still indicates that all "buyers" should receive training. Their updated SOP refers to *"Training will be specific to the areas of authority under the Procurement and Contracts Division"* but the document does not clearly define what that really means. This was discussed with PCD management.

APPENDIX B – MANAGEMENT RESPONSE

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

PROCUREMENT AND CONTRACTS DIVISION

SUITE 500, JAMES K. POLK BUILDING

505 DEADERICK STREET

NASHVILLE, TENNESSEE 37243-1402

(615) 741-2848

BUTCH ELEY   **BILL LEE**

DEPUTY GOVERNOR &   GOVERNOR
COMMISSIONER OF TRANSPORTATION

To: Windle Morgan, TDOT Internal Audit

From: Chris Yarbrough, Director of Procurement and Contracts

Date: November 22, 2024

Re: PA-2024-01 Audit Report Response

Please see below for the management responses to the subject audit draft report.

Observation 1:
Lack of Adherence to Professional Standards Framework

Recommendation 1:

We recommend that the PCD choose a professional standard/framework to add credibility to the execution of the work for greater reliance on the results.

PCD Response:

The PCD has made a strategic decision not to adopt specific professional frameworks, such as the referenced GAO's Green Book, GAO's Yellow Book, IIA's Red Book, or ISO 9001. The PCD believes aligning with audit-specific standards may not be directly applicable to the unique objectives and scope of the PCD's compliance efforts.

That said, we recognize the importance of uniformity and clarity in our documentation. The PCD is committed to enhancing the consistency of our working papers. In addition, while the PCD has established an internal review process, we acknowledge the importance of providing verifiable evidence of this process. As such, we will work toward improved documentation of our review activities. Regarding report content, we understand the value of

documenting all elements of a finding to facilitate a clearer understanding for our clients. While we currently cover most of these elements in our Corrective Action Plan document and all these elements in our out briefs, we will integrate the condition, effect, cause, criteria, and recommendations more formally within our final reports.

Observation 2:

Assessment Cycle Could be Improved Utilizing Statistical Sampling

Recommendation 2:
We recommend that the Procurement and Contracts Division utilize a sampling-based methodology to improve assessment cycling time.

PCD Response:
To be discussed further among PCD leadership, and potentially Joe and/or his successor.

Observation 3:
Lack of Controls Regarding Queries and Spreadsheet Controls

Recommendation:
(3) We recommend that the Procurement and Contracts Division use data validation methods such as consistency checks to ensure that the data range is captured. (4) We recommend that they use control totals/hash totals when moving sets of data from sheet to another in excel. (5) We recommend using spreadsheet controls such as locking formulas and columns and tracking changes since the PCD utilizes shared workbooks with clients and relies on commentary back in the comments of certain columns in the workbooks.

PCD Response:
The PCD can perform data validation when gaps appear at the beginning or end of a six-month period. The example referenced and the justifiable reasons provided are factual: state holidays mark the start of each year, which explains the absence of data at the very beginning, and the TDOT FY24 Closing schedule designated June 18 as the last day to create FY24 requisitions, with Friday, June 21, as the final day for approvals. Additionally, the PCD can ensure that spreadsheet controls, such as password-protected access, are in place to limit data manipulation to authorized PCD personnel only.

Observation 4:
Self-Led Online Training Effectiveness

Recommendation 6:
We recommend an increase of in-person/virtual training offerings. This will allow real time questions and answers for participants and will also provide valuable feedback to the training staff on educational material improvements. For maximum program training effectiveness, all training should have some available in-person/virtual dates for buyer engagement and knowledge retention.

PCD Response:
On page 2 of the Audit Report, within the 'Training' section, there is a comment stating: '*Buyers are required to complete a one-time self-led module through Edison, called "Foundations in Procurement." Additional self-led training courses are offered on the Procurement SharePoint site, but these are not required.*'

The referenced "Foundations in Procurement" training refers to CPO's self-led module. In contrast, PCD's "TDOT Foundations in Procurement" is an in-person only, two-day class. Additionally, several self-led training courses offered on the Procurement SharePoint—such as

ART Review, Blanket Purchase Order, Certificates of Insurance, Payment and Performance

Bonds—are indeed required, as outlined in our standard operating procedures. These videos are available on our SharePoint for reference but do not contain the quiz within TDOT's learning network used to track completion.

With two trainers allotted to the division, the PCD conducts the following classes in-person or virtually with an instructor: TDOT Foundations in Procurement, Blanket Purchase Order, Supervisor Training, Writing Specifications, and Focused Training following failed Compliance inspections. The PCD will consider expanding instructor-led, in-person or virtual classes for other training offerings.

Observation 5:
Post-Training Testing Could be Improved

Recommendation 7:
We recommend the post-testing include more real-life scenarios using simulation-based simulations rather than all multiple-choice questions.

PCD Response:
The PCD will explore and consider post-tests that replicate real-life scenarios through interactive simulations.

Observation 6:
Inspection and Re-inspection Reporting Could Be Improved

Recommendation 8:
We recommend evaluating the reports for clarity, flow, and logical numbering from the body of the report to the grading rubric which is the basis for calculating the compliance scoring. All sections of the report should clearly refer to criteria, condition, cause, and effect for which recommendations are made.

PCD Response:
The PCD recognizes the importance of uniformity and clarity in our documentation. The PCD is committed to enhancing the consistency of our working papers. Regarding report content, we understand the value of documenting all elements of a finding to facilitate a clearer understanding for our clients. While we currently cover these elements in our out briefs, we will integrate the condition, effect, cause, criteria, and recommendations more formally within our final reports.

Observation 7:
Buyer Survey Results Indicated Opportunities for Improvement

Recommendation 9:
Consider the following: Ace the Audit Emails. Compare the buyer list from Edison to the email distribution list Procurement currently utilizes to ensure sure all buyers receive program emails.

PCD Response:
Given the unique setup at TDOT—where some staff hold purchasing roles solely to enable

TDOT Finance to enter purchases on their behalf in Edison, and procurement roles are required for purchases outside the purview of the Central Procurement Office and PCD (such as right-ofway, land acquisition, or professional services)—the PCD will continue evaluating the current email distribution list to ensure that the most relevant buyers receive updates.

Recommendation 10:
Consider the following: Ace the Audit Emails. Regularly solicit recipient feedback to make the content/exercise more useful.

PCD Response:
The PCD will consider regularly soliciting recipient feedback to make the content/exercise more useful.

Recommendation 11:
Consider the following: Training. Ensure all buyers complete the "Foundations in Procurement Training.

PCD Response:
Given TDOT's unique structure—where some staff hold purchasing roles solely to enable TDOT Finance to enter purchases on their behalf in Edison, and procurement roles are required for transactions outside the scope of the Central Procurement Office and PCD (such as right-of-way, land acquisition, or professional services)—the PCD will assess the implications of requiring staff to complete training that may not align with their purchasing responsibilities, policies, and procedures, and will make an informed decision.

Recommendation 12:
Consider the following: Training. Consider offering more in-person offerings to enhance the training experience

PCD Response:
With two trainers allotted to the division, the PCD conducts the following classes in-person or virtually with an instructor: TDOT Foundations in Procurement, Blanket Purchase Order, Supervisor Training, Writing Specifications, and Focused Training that occurs following failed Compliance inspections. The PCD will consider expanding instructor-led, in-person or virtual classes for other training offerings. We will work to incorporate more opportunities for focused virtual trainings that would allow for buyers to ask questions for trainings that are not typically in-person.

Recommendation 13:
Consider the following: SOP/Manuals. Ensure all buyers have electronic copies of the PCD SOPs and the CPO Procurement Manual.

PCD Response:
The PCD SOP is available on the PCD SharePoint under the Customer Library tile. We emphasized this resource among many other resources available to the procurement professionals in our TDOT Foundations in Procurement Training. We recommend that procurement professionals access the SOP directly through SharePoint rather than saving an electronic file on their desktop. This ensures they are always reviewing the latest version. The CPO Procurement Manual is also accessible on the PCD SharePoint under the Resources Links tile. For the same reason, we encourage procurement professionals to access the CPO Manual through SharePoint to guarantee they are referencing the most current document.

Recommendation 14:
Consider the following: Purchasing Support. Ensure all buyers have a dedicated contact for purchasing questions.

PCD Response:

We have a dedicated FTE that is currently providing high-level support to all procurement professionals across the State, but he is the main point of contact and resource for the PO2 procurement leaders in the field. Post EPIC, there will be a dedicated person on-site and in each Region to provide a more granular level of support in a more proactive manner. The PCD successfully advocated for the hiring of 12 additional Procurement Officer 2 positions, bringing the total to 16, including the 4 already established within the Region Garages. Each of these 16 positions serves a designated district or regional complex and acts as the primary contact for purchasing questions within their respective areas. Additionally, the PCD maintains a general procurement email, tdot.procurement@tn.gov, which anyone can use for purchasing-related needs or inquiries. This email is connected to an internal Zendesk ticketing account to help monitor the status of all correspondence received. The PCD also has a dedicated Customer Service Support Request tile on the PCD SharePoint, where purchasing inquiries and requests can be submitted and routed through an internal Formstack account.

Recommendation 15:
Consider the following: Purchasing Support. Creating training/guide for the support ticket process.

PCD Response:
PCD maintains a general procurement email, tdot.procurement@tn.gov, which anyone can use for purchasing-related needs or inquiries. Behind the scenes, tickets are automatically created to ensure that PCD captures all support inquiries, enabling us to track the volume and types of requests, identify patterns, maintain a history for backup purposes, and ensure procurement support requests don't fall through the cracks. PCD will continue to emphasize the need for TDOT staff to email tdot.procurement@tn.gov for any procurement-related needs or inquiries they may have.

Recommendation 16:
Consider the following: Purchasing Support. Follow-up email communication/survey to ensure requestor question was resolved.

PCD Response:
When emails are sent to PCD, they are automatically forwarded to the PCD Zendesk account, where tickets are created. When PCD responds to these tickets, the responses are sent via Zendesk to the requestor's email, ensuring all communication includes follow-up emails. Regarding surveys, PCD sends out support surveys multiple times a year to procurement officers for feedback, as achieving a customer satisfaction score of at least 80% is a key work outcome for the PCD Support Manager. PCD will explore additional ways to survey individuals submitting requests, such as embedding a survey automatically when closing out tickets in Zendesk, following confirmation from the requestor that their request has been resolved.

Recommendation 17:
Consider the following: Purchasing Support. Compliance Assessments. Ensure all buyers involved in the compliance assessment are provided with clear explanations of infractions utilizing the five elements of a finding: criteria, condition, cause, effect, and recommendation.

PCD Response:
Please see responses to both Recommendation 1 and Recommendation 8.

Recommendation 18:
Consider the following: Fraud Reporting. Add a fraud notice for awareness to all training materials to instructing buyers to notify the Fraud, Waste, and Abuse hotline if they suspect fraud.

PCD Response:

PCD will consider incorporating this into all relevant training sessions.

Observation 8:
Inaccurate Contract Dates in Edison

Recommendation 19:
We recommend that the Procurement and Contracts Division use data validation to ensure the information is complete, accurate, and valid before being able to enter the contract into Edison.

PCD Response:
The PCD will use data validation to ensure the information entered, regardless of whether it's CPO or TDOT, is complete, accurate, and valid before entering the contract into Edison for the Department, CPO, and Comptroller to approve.

Observation 9:

PCD SOP Should be Updated to Reflect Current State

Recommendation 20:
Update the PCD SOP to the current state strategic and management priorities to accurately reflect relevant objectives and operating procedures.

PCD Response:
PCD conducts annual reviews of the SOP to update relevant information. Given that EPIC is continually evolving the operational landscape across the entire department, PCD intends to revisit the SOP to align current strategic and management priorities, ensuring it accurately reflects relevant objectives and operating procedures following EPIC implementation.

APPENDIX C – REFERENCES

GAO Green Book Principles and Attributes

Principle 1 – Demonstrate Commitment to Integrity and Ethical Values: The oversight body and management should demonstrate a commitment to integrity and ethical values.

Principle 2 – Exercise Oversight Responsibility: The oversight body should oversee the entity's internal control system.

Principle 3 – Establish Structure, Responsibility, and Authority: Management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.

Principle 4 – Demonstrate Commitment to Competence: Management should demonstrate a commitment to recruit, develop, and retain competent individuals.

- **Attribute 4.05.** Management recruits, develops, and retains competent personnel to achieve the entity's objectives. Management considers the following:
  - o <u>Recruit</u> - Conduct procedures to determine whether a particular candidate fits the organizational needs and has the competence for the proposed role.
  - o <u>Train</u> - Enable individuals to develop competencies appropriate for key roles, reinforce standards of conduct, and tailor training based on the needs of the role.
  - o <u>Mentor</u> - Provide guidance on the individual's performance based on standards of conduct and expectations of competence, align the individual's skills and expertise with the entity's objectives, and help personnel adapt to an evolving environment.
  - o <u>Retain</u> - Provide incentives to motivate and reinforce expected levels of performance and desired conduct, including training and credentialing as appropriate.

Principle 5 – Enforce Accountability: Management should evaluate performance and hold individuals accountable for their internal control responsibilities.

Principle 6 – Define Objectives and Risk Tolerances: Management should define objectives clearly to enable the identification of risks and define risk tolerances.

Principle 7 – Identify, Analyze, and Respond to Risks: Management should identify, analyze, and respond to risks related to achieving the defined objectives.

Principle 8 – Assess Fraud Risk: Management should consider the potential for fraud when identifying, analyzing, and responding to risks.

Principle 9 – Identify, Analyze, and Respond to Change: Management should identify, analyze, and respond to significant changes that could impact the internal control system.

Principle 10 – Design Control Activities: Management should design control activities to achieve objectives and respond to risks.

- **Attribute 10.02.** Management designs control activities in response to the entity's objectives and risks to achieve an effective internal control system. Control activities are the policies, procedures, techniques, and mechanisms that enforce management's directives to achieve the entity's objectives and address related risks. As part of the control environment component, management defines responsibilities, assigns them to key roles, and delegates authority to achieve the entity's objectives. As part of the risk assessment component, management identifies the risks related to the entity and its objectives, including its service organizations; the entity's risk tolerance; and risk responses. Management designs control activities to fulfill defined responsibilities and address identified risk responses.
- **Attribute 10.03**. Management designs appropriate types of control activities for the entity's internal control system. Control activities help management fulfill responsibilities and address identified risk responses in the internal control system. The common control activity categories listed in figure 6 are meant only to illustrate the range and variety of control activities that may be useful to management. The list is not all inclusive and may not include particular control activities that an entity may need.
  - For Figure 6 and the accompanying details the Green Book is linked below:
    X:\Internal Audit\Projects\Audits\Procurement\PLANNING\Policies and Procedures\GAO_Green_Book_2014.pdf

Principle 11 – Design Activities for the Information System: Management should design the entity's information system and related control activities to achieve objectives and respond to risks.

- **Attribute 11.02**. Management designs the entity's information system to respond to the entity's objectives and risks.
- **Attribute 11.03.** Management designs the entity's information system to obtain and process information to meet each operational process's information requirements and to respond to the entity's objectives and risks. An information system is the people, processes, data, and technology that management organizes to obtain, communicate, or dispose of information. An information system represents the life cycle of information used for the entity's operational processes that enables the entity to obtain, store, and process quality information. An information system includes both manual and technology-enabled information processes. Technology-enabled information processes are commonly referred to as information technology. As part of the control environment component management defines responsibilities, assigns them to key roles, and delegates authority to achieve the entity's objectives. As part of the risk assessment component,

management identifies the risks related to the entity and its objectives, including its service organizations; the entity's risk tolerance; and risk responses. Management designs control activities to fulfill defined responsibilities and address the identified risk responses for the entity's information system.

- **Attribute 11.04**. Management designs the entity's information system and the use of information technology by considering the defined information requirements for each of the entity's operational processes. Information technology enables information related to operational processes to become available to the entity on a timelier basis. Additionally, information technology may enhance internal control over security and confidentiality of information by appropriately restricting access. Although information technology implies specific types of control activities, information technology is not a "stand-alone" control consideration. It is an integral part of most control activities.

- **Attribute 11.05.** Management also evaluates information processing objectives to meet the defined information requirements. Information processing objectives may include the following:
  - o <u>Completeness</u> - Transactions that occur are recorded and not understated.
  - o <u>Accuracy</u> - Transactions are recorded at the correct amount in the right account (and on a timely basis) at each stage of processing.
  - o <u>Validity</u> - Recorded transactions represent economic events that actually occurred and were executed according to prescribed procedures.

- **Attribute 11.06.** Management designs appropriate types of control activities in the entity's information system for coverage of information processing objectives for operational processes. For information systems, there are two main types of control activities: general and application control activities.

- **Attribute 11.07**. Information system general controls (at the entity-wide, system, and application levels) are the policies and procedures that apply to all or a large segment of an entity's information systems. General controls facilitate the proper operation of information systems by creating the environment for proper operation of application controls. General controls include security management, logical and physical access, configuration management, segregation of duties, and contingency planning.

- **Attribute 11.08**. Application controls, sometimes referred to as business process controls, are those controls that are incorporated directly into computer applications to achieve validity, completeness, accuracy, and confidentiality of transactions and data during application processing. Application controls include controls over input, processing, output, master file, interface, and data management system controls.

- **Attribute 11.09**. Management designs control activities over the information technology infrastructure to support the completeness, accuracy, and validity of information processing by information technology. Information technology requires an infrastructure in which to operate, including communication networks for linking information technologies, computing resources for applications to operate, and electricity to power the information technology. An entity's information technology infrastructure can be complex. It may be shared by different units within the entity or outsourced either to service organizations or to location-independent technology services. Management evaluates the objectives of the entity and related risks in designing control activities for the information technology infrastructure.

- **Attribute 11.10.** Management continues to evaluate changes in the use of information technology and designs new control activities when these changes are incorporated into the entity's information technology infrastructure. Management also designs control activities needed to maintain the information technology infrastructure. Maintaining technology often includes backup

and recovery procedures, as well as continuity of operations plans, depending on the risks and consequences of a full or partial power systems outage.

- **Attribute 11.11**. Management designs control activities for security management of the entity's information system for appropriate access by internal and external sources to protect the entity's information system. Objectives for security management include confidentiality, integrity, and availability. Confidentiality means that data, reports, and other outputs are safeguarded against unauthorized access. Integrity means that information is safeguarded against improper modification or destruction, which includes ensuring information's nonrepudiation and authenticity. Availability means that data, reports, and other relevant information are readily available to users when needed.

- **Attribute 11.12**. Security management includes the information processes and control activities related to access rights in an entity's information technology, including who has the ability to execute transactions. Security management includes access rights across various levels of data, operating system (system software), network, application, and physical layers. Management designs control activities over access to protect an entity from inappropriate access and unauthorized use of the system. These control activities support appropriate segregation of duties. By preventing unauthorized use of and changes to the system, data and program integrity are protected from malicious intent (e.g., someone breaking into the technology to commit fraud, vandalism, or terrorism) or error.

- **Attribute 11.13**. Management evaluates security threats to information technology, which can be from both internal and external sources. External threats are particularly important for entities that depend on telecommunications networks and the Internet. External threats have become prevalent in today's highly interconnected business environments, and continual effort is required to address these risks. Internal threats may come from former or disgruntled employees. They pose unique risks because they may be both motivated to work against the entity and better equipped to succeed in carrying out a malicious act as they have greater access to and knowledge of the entity's security management systems and processes.

- **Attribute 11.14**. Management designs control activities to limit user access to information technology through authorization control activities such as providing a unique user identification or token to authorized users. These control activities may restrict authorized users to the applications or functions commensurate with their assigned responsibilities, supporting an appropriate segregation of duties. Management designs other control activities to promptly update access rights when employees change job functions or leave the entity. Management also designs control activities for access rights when different information technology elements are connected to each other.

- **Attribute 11.15**. Management designs control activities over the acquisition, development, and maintenance of information technology. Management may use a systems development life cycle (SDLC) framework in designing control activities. An SDLC provides a structure for a new information technology design by outlining specific phases and documenting requirements, approvals, and checkpoints within control activities over the acquisition, development, and maintenance of technology. Through an SDLC, management designs control activities over changes to technology. This may involve requiring authorization of change requests; reviewing the changes, approvals, and testing results; and designing protocols to determine whether changes are made properly. Depending on the size and complexity of the entity, development of information technology and changes to the information technology may be included in one SDLC or two

separate methodologies. Management evaluates the objectives and risks of the new technology in designing control activities over its SDLC.

- **Attribute 11.16**. Management may acquire information technology through packaged software from vendors. Management incorporates methodologies for the acquisition of vendor packages into its information technology development and designs control activities over their selection, ongoing development, and maintenance. Control activities for the development, maintenance, and change of application software prevent unauthorized programs or modifications to existing programs.
- **Attribute 11.17.** Another alternative is outsourcing the development of information technology to service organizations. As for an SDLC developed internally, management designs control activities to meet objectives and address related risks. Management also evaluates the unique risks that using a service organization presents for the completeness, accuracy, and validity of information submitted to and received from the service organization.

Principle 12 – Implement Control Activities: Management should implement control activities through policies.

Principle 13 – Use Quality Information: Management should use quality information to achieve the entity's objectives.

- **Attribute 13.04.** Management obtains relevant data from reliable internal and external sources in a timely manner based on the identified information requirements. Relevant data have a logical connection with, or bearing upon, the identified information requirements. Reliable internal and external sources provide data that are reasonably free from error and bias and faithfully represent what they purport to represent. Management evaluates both internal and external sources of data for reliability. Sources of data can be operational, financial, or compliance related. Management obtains data on a timely basis so that they can be used for effective monitoring.
- **Attribute 13.05.** Management processes the obtained data into quality information that supports the internal control system. This involves processing data into information and then evaluating the processed information so that it is quality information. Quality information meets the identified information requirements when relevant data from reliable sources are used. Quality information is appropriate, current, complete, accurate, accessible, and provided on a timely basis. Management considers these characteristics as well as the information processing objectives in evaluating processed information and makes revisions when necessary so that the information is quality information. Management uses the quality information to make informed decisions and evaluate the entity's performance in achieving key objectives and addressing risks.

Principle 14 – Communicate Internally: Management should internally communicate the necessary quality information to achieve the entity's objectives.

- **Attribute 14.02.** Management communicates quality information throughout the entity using established reporting lines. Quality information is communicated down, across, up, and around reporting lines to all levels of the entity.
- **Attribute 14.03.** Management communicates quality information down and across reporting lines to enable personnel to perform key roles in achieving objectives, addressing risks, and supporting

the internal control system. In these communications, management assigns the internal control responsibilities for key roles.

- **Attribute 14.04.** Management receives quality information about the entity's operational processes that flows up the reporting lines from personnel to help management achieve the entity's objectives.
- **Attribute 14.05.** The oversight body receives quality information that flows up the reporting lines from management and personnel. Information relating to internal control communicated to the oversight body includes significant matters about adherence to, changes in, or issues arising from the internal control system. This upward communication is necessary for the effective oversight of internal control.
- **Attribute 14.06.** Personnel use separate reporting lines to go around upward reporting lines when these lines are compromised. Laws and regulations may require entities to establish separate lines of communication, such as whistleblower and ethics hotlines, for communicating confidential information. Management informs employees of these separate reporting lines, how they operate, how they are to be used, and how the information will remain confidential.
- **Attribute 14.07.** Management selects appropriate methods to communicate internally. Management considers a variety of factors in selecting an appropriate method of communication. Some factors to consider follow:
    o <u>Audience</u> - The intended recipients of the communication
    o <u>Nature of information</u> - The purpose and type of information being communicated.
    o <u>Availability</u> - Information readily available to the audience when needed.
    o <u>Cost</u> - The resources used to communicate the information.
    o <u>Legal or regulatory requirements</u> - Requirements in laws and regulations that may impact communication.
- **Attribute 14.08.** Based on consideration of the factors, management selects appropriate methods of communication, such as a written document—in hard copy or electronic format—or a face-to-face meeting. Management periodically evaluates the entity's methods of communication so that the organization has the appropriate tools to communicate quality information throughout the entity on a timely basis.

Principle 15 – Communicate Externally: Management should externally communicate the necessary quality information to achieve the entity's objectives.

Principle 16 – Perform Monitoring Activities: Management should establish and operate monitoring activities to monitor the internal control system and evaluate the results.

Principle 17 – Evaluate Issues and Remediate Deficiencies: Management should remediate identified internal control deficiencies on a timely basis.