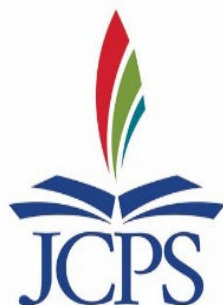


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Internal Audit Summary
Electrical License Usage
Audit

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Introduction

Jefferson County Public Schools (the District) Internal Audit department performed an audit of the District's Electrical License Usage Process (Process). This review began during fiscal year 2024 and was included in the 2024-25 Audit Plan approved by the Jefferson County Board of Education in accordance with the *Internal Audit Charter*.

Background

The Operations Services Division's Facilities Maintenance, Renovations, & Property Management Services (Facilities) department is responsible maintaining and renovating all facilities across the District, including performing regulated electrical services. The Renovations Electric Shop within Facilities manages electrical projects that are not associated with capital improvements.

The Renovations Electric Shop has 16 employees including 12 licensed electricians and 4 technicians. Technicians are classified by the Human Resources Division (HR) as Level I, II, or III depending on the years employed.

Renovations' leadership has enhanced and developed processes and practices to improve operations and compliance of the Renovations Electric Shop including, but not limited to contracting eight hours of annual onsite education for electrician compliance with licensure requirements. Additionally, Renovations' employees are assigned a lock-out / tag-out (LOTO) kit and have attended LOTO training.

Kentucky Revised Statutes (KRS) Chapter 227A governs the requirements for electricians. These include initial licensure, renewal, and appropriate project staffing and supervision based on the nature of the work. This statute prohibits an unlicensed individual from performing licensed tasks such as installing electrical systems, making major repairs, or work that requires a permit unless he or she is under the supervision of an onsite electrician. KRS 227A does allow unlicensed individuals to perform routine maintenance such as changing light fixtures, outlets, or switches, and requires an electrician to submit evidence of completing at least six hours of annual education conducted by a state-approved provider when renewing a license.

Objectives

The primary objective of the Electrical License Usage Audit was to assess Renovations' processes for staffing electrical projects and compliance with regulatory requirements and JCPS policies. The specific objectives included the following:

- Verification of that governance and oversight for processes concerning electrical license usage.
- An assessment of the processes for staffing and tracking projects involving electrical services.
- An assessment of the processes for ensuring all employees that perform electrical service projects are properly credentialed and equipped in accordance with regulatory requirements and JCPS policies.

Scope and Methodology

Scope

The audit covered activities occurring from July 1, 2022, through August 30, 2024. The audit was limited to activities potentially requiring a valid Kentucky Electrician License to be maintained by the employee and / or supervising employee. A review of compliance with state and local permitting requirements was also not included in the audit.

Methodology

An understanding of the process was obtained through interviews with Renovations' personnel and examination of relevant documentation and information. Specific analysis performed included the following:

- An examination of IIQ project records to determine if the projects were accurately staffed and supervised based on the nature of each one in accordance with regulatory requirements. **
- An examination of electrical licensure records for all applicable employees to determine if each employee was actively and continuously credentialed.
- An examination of annual training documentation to verify the class was taught by a state-approved instructor, and all applicable employees attended the class and obtained the number of hours required to maintain their licenses.
- An examination of safety training documentation to verify all employees attended and participated in the class to ensure minimum safety requirements were met.
- Inquiry and observation of Renovations' processes for staffing and monitoring electrical projects and ensuring employees are properly credentialed and maintain the appropriate safety equipment in accordance with regulations. This also included identifying and interviewing electrician and technician personnel responsible for performing / assisting with assigned projects.

**This examination would not reveal all instances of noncompliance because it was based on a selective review of records.

The following is a summary of the observations, opportunities and recommendations found during the audit. Details of each are included in the report along with responses provided by Management to address the recommendations.

Summary of Observations, Opportunities and Recommendations

Observations

- **Observation 1: Multiple Channels of Project Initiation (Risk Rating: Moderate).** Electrical projects initiated outside of the IIQ system are more likely to have incomplete or missing documentation.
- **Observation 2: Documentation of Compliant Staffing and Supervision (Risk Rating: Moderate).** Certain electrical projects selected for testing appeared to be noncompliant with staffing and supervising regulations.
- **Observation 3: Policies and Procedures (Risk Rating: Moderate).** The Renovations department does not have formal policies and procedures.

- **Observation 4: Subjective Methodology for Technician Assignment (Risk Rating: Moderate).** Technicians may inadvertently perform work that is prohibited by state and local regulations.
- **Observation 5: Lock-out / Tag-out Safety Training (Risk Rating: Moderate).** Lock-out / tag-out safety training is not mandatory for Renovations' electrical maintenance employees, and guidelines have not been developed.
- **Observation 6: Seniority Based Technician Advancement (Risk Rating: Low).** Progression of technicians from one level to the next is automatic and based solely on the number of years employed instead of demonstrated expertise.

Recommendations

- ✓ **Recommendation 1:** Establish a district-level policy that mandates the use of IIQ for submitting all types of requests, create and distribute formal written procedures that provide guidance on submission, and discourage the use of informal channels for initiating electrical projects by reinforcing the policy and providing central point of contact for exceptions.
- ✓ **Recommendation 2:** Create and communicate a formal procedure for documenting all project labor, hours, and details completely and accurately in agreement with regulatory requirements.
- ✓ **Recommendation 3:** Collaborate with the Operations Services Director III to plan and document formal policies and procedures of key roles, processes, and expectations in conjunction with the overall strategy of the Operations Services Division and District.
- ✓ **Recommendation 4:** Document formal guidelines for assigning technicians to solo projects to include specific tasks or categories of tasks that can and cannot be performed without an electrician onsite, and for using technicians on projects assigned to electricians.
- ✓ **Recommendation 5:** Renovations should work with Operations Services' management to coordinate and ensure annual lock-out / tag-out training is in place and required for, and attend by, applicable personnel.
- ✓ **Recommendation 6:** Coordinate a meeting(s) with HR to discuss ongoing collaboration on the steps necessary for appropriate and warranted technician advancement.

Acknowledgements

Renovations should be commended for their time and cooperation. Additionally, the department's management has proactively improved the Process over the past couple of years since the current leadership assumed its role and advocated for automated work order software more aligned with its processes.

Management Responses

Management concurred with 6 of 6 observation recommendations and agreed to implement 6 of 6 recommendations.

Observations and Recommendations

Observation 1:

Condition: Multiple Channels of Project Initiation (Risk Rating: Moderate). Electrical projects initiated outside of the IIQ system are more likely to have incomplete or missing documentation. IIQ, the system used to manage requests and track work orders, is designed to capture, and maintain relevant data for effective tracking and documentation. However, depending on the nature of the request, projects may also be initiated via email, text message, or instant messaging, which can lead to inconsistent documentation.

Criteria: Electrical maintenance work is primarily regulated by KARs under Title 815, which requires sufficient documentation demonstrate compliance with safety and licensing standards. Additionally, the Kentucky *Records Retention/Public School District Schedule*, as required by KRS 171.640 and JCBE Policy 01.61, mandates that service requests, work orders, and records detailing the work performed be retained for a minimum of three years.

Cause: There is a lack of awareness of the requirement to use IIQ to request, both routine and emergency, electrical maintenance service. Additionally, there is a lack of formal procedures to provide guidance on how to make a request. This increases safety, legal and compliance risk, because without proper documentation, the district may not be able to demonstrate compliance with safety, licensing, and record retention requirements. Additionally, the inconsistency in documentation also makes it difficult to track and manage work orders effectively.

Recommendation 1:

- ✓ Renovations encourages the use of IIQ. Renovations should strengthen this effort by establishing a district level policy that mandates the use of IIQ for submitting all routine and emergency electrical maintenance requests. Communicate this requirement clearly to all relevant staff. Additionally, Renovations should continue efforts to staff the District Operations Center for service call intake.
- ✓ Create and distribute formal, written procedures that provide step-by-step guidance on how to submit maintenance requests through IIQ. These procedures should be easily accessible to all staff and include examples of what constitutes a routine or emergency request.
- ✓ Discourage the use of informal channels (e.g., email, text, instant messaging) for initiating electrical projects by reinforcing the policy and providing a central point of contact for any exceptions that may arise.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendations regarding multiple channels of project initiation.

Target Implementation Date: July 1, 2025

Observation 2:

Condition: Documentation of Compliant Staffing and Supervision (Risk Rating: Moderate). Out of fifteen electrical projects selected for testing, four appeared to be noncompliant with staffing and supervising regulations.

- Three of the four projects lacked documentation, in IIQ, to evidence the presence of both a technician, to perform the work, and a licensed electrician, to supervise the technician. These projects were assigned to a licensed electrician. However, a technician was documented as working on the projects for at least part of one or more days when no licensed electrician was recorded as being onsite.
 - The three projects were complex enough and / or risky enough to require supervision, based on the applicable regulations. Two of the three projects required an electrical permit and the other involved electrical repairs.
- One of the four projects involved complex and / or high-risk work, based on the work order description. The project was solely assigned to and completed by a technician. Although the Renovations department stated that the work order description was inaccurate, no documentation was available to support or refute their statement.
- The remaining eleven of fifteen projects were either assigned solely to a licensed electrician or were sufficiently documented to evidence the consistent presence of both a technician and a licensed electrician.

Criteria: KRS 227A.020 states that an unlicensed individual shall not perform any duties usually performed by a licensed electrician such as installing new electrical systems, making major repairs, or work that requires a permit, unless the individual is under the direct supervision of a licensee who is present onsite where the work is being performed.

Cause: Documented guidelines and procedures for consistently documenting all labor, hours, and project details completely and accurately does not exist. This increases safety, legal and compliance risk as a lack of proper documentation leads to the district's inability to demonstrate compliance with requirements. The lack of documentation also creates challenges for management in ensuring projects are performed safely and maintaining complete and accurate records for future reference or inspections.

Recommendation 2:

- ✓ Create and communicate a formal procedure for documenting all project labor, hours, and details completely and accurately in agreement with regulatory requirements. Projects with exceptions due to extenuating circumstances should be documented to explain the nature of these circumstances for completeness and compliance. This requirement should be documented in a formal step-by-step procedure in conjunction with **Recommendation 3**.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendation regarding documentation of compliant staffing and supervision.

Target Implementation Date: July 1, 2025

Observation 3:

Condition: Policies and Procedures (Risk Rating: Moderate). The Renovations department does not have formal policies and procedures. Key processes, roles and expectations are informal and understood and communicated through the knowledge of seasoned personnel.

Criteria: Policies, procedures, and other documented guidance are imperative to fulfilling required Supervisor / Management duties under JCBE Policy 02.3. The policy states that

supervisors shall direct employees under their supervision in keeping with district policies, administrative procedures, and other legal requirements.

Cause: Historically, the Electrical Maintenance area has relied on the institutional knowledge of its employees. Electrical Maintenance leadership has proactively established processes for increased effectiveness and consistency. However, the processes and practices have not been formally documented and adapted into official policies and procedures. The absence of formal policies and procedures increases the risk that processes will not be performed as intended. Additionally, policies and procedures promote continuity and successful succession planning.

Recommendation 3:

- ✓ Renovations should collaborate with the Operations Services Director III to plan and document formal policies and procedures of key roles, processes, and expectations in conjunction with the overall strategy of the division and JCPS. A formal process to review and update these items as needed, at least annually, should be created.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendation regarding policies and procedures.

Target Implementation Date: July 1, 2025

Observation 4:

Condition: Subjective Methodology for Technician Assignment (Risk Rating: Moderate). Technicians may inadvertently perform work that is prohibited by state and local regulations. Technicians are assigned tasks based on their perceived level of expertise by licensed electricians. This methodology is subjective and creates the potential for inconsistency and noncompliance.

Criteria: KRS 227A.030 allows non-licensed maintenance workers or engineers to perform routine maintenance of electrical systems, such as changing light fixtures, outlets, or switches. KRS 227A.020 states that an unlicensed individual shall not perform any duties usually performed by a licensee such as installing new electrical systems, making major repairs, or work that requires a permit, unless the individual is under the direct supervision of a licensee who is present onsite where the work is being performed. Further definition of “routine” and “duties usually performed” will reduce subjectivity and the likelihood of noncompliance.

Cause: Documented formal guidance, including but not limited to a listing of prohibited solo tasks, does not exist. A lack of formal guidance increases the risk of noncompliance and potentially impacts the safety of employees and students. Documented guidance also reduces subjectivity in the assignment of technicians.

Recommendation 4:

- ✓ Document formal guidelines for assigning technicians to solo projects to include specific tasks or categories of tasks that can and cannot be performed without an electrician present onsite during the project, and for using technicians on projects assigned to electricians.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendation regarding subjective methodology for technician assignment.

Target Implementation Date: July 1, 2025

Observation 5:

Condition: Lock-out / Tag-out Safety Training (Risk Rating: Moderate). Lock-out / tag-out safety training is not mandatory for Renovations' electrical maintenance employees. Additionally, guidelines for the timing of the initial lock-out / tag-out training and the frequency of periodic refresher trainings have not been developed.

Criteria: Lock-out / tag-out safety training is required and / or strongly recommended by OSHA and the National Fire Protection Association (NFPA), respectively. Additionally, national electrician trade organizations, such as the National Electrical Contractors Association (NECA), and the Electrical Training Alliance recommend and promote periodic, at least annual, safety training for electrical shops.

Cause: There is a lack of coordination to ensure relevant personnel have mandatory, periodic lock-out / tag-out training for safety and compliance with applicable standards. The Renovations department identified the need for safety training and coordinated with Safety and Environmental to provide a training session, during November of 2023. However, the absence of a defined policy and process to ensure Renovations' electrical maintenance employees receive periodic training increases the safety risk.

Recommendation 5:

- ✓ The Renovations department should work with Operations Services' management to coordinate and ensure annual lock-out / tag-out training is in place and required for, and attended by, applicable personnel. This may encompass coordination with another department(s), such as Safety & Environmental, to conduct the training in-house or outsourcing it. Document the annual training requirement and related process(es) in a policy and procedure in conjunction with **Recommendation 3**.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendation regarding lock-out / tag-out safety training.

Target Implementation Date: July 1, 2025

Observation 6:

Condition: Seniority-based Technician Advancement (Risk Rating: Low). Progression of electric technicians from one level to the next is automatic and based solely on the number of years employed instead of demonstrated expertise.

Criteria: 815 KAR 35:080 requires that licensed electricians exercise due care when supervising others. Renovations leadership and their licensed electricians assess and are aware of the expertise

of each technician prior to assigning them to a maintenance project. However, assignments should align with the technician's skill level and job classification to ensure appropriate task delegation and avoid any potential misalignment.

Cause: There is a lack of collaboration between Renovations and HR. Renovations is not consulted by HR to assess a technician's expertise prior to advancement. This increases the risk that task assignment and the technician's job classification expertise may be misaligned.

Recommendation 6:

- ✓ Renovations should coordinate a meeting(s) with HR to discuss ongoing collaboration on the steps necessary for appropriate and warranted technician advancement.

Renovations Corrective Action Plan:

Renovations concurred and agreed to implement the recommendation regarding seniority-based technician advancement.

Target Implementation Date: July 1, 2025

Opportunities for Enhancement

Opportunities for enhancement (OFE) identify an opportunity to enhance some component of the process. These are typically low / no risk findings. Although the OFEs include recommendations, implementation of corrective actions is optional.

OFE 1:

Condition: Unlicensed Area Maintenance Position (Risk Rating: High). The area maintenance position at certain schools performs various tasks, including electrical maintenance, that are potentially subject to regulatory requirements. The nature of these potentially unregulated tasks jeopardizes the safety of employees and students and exposes the district to a greater risk of noncompliance.

Criteria: KRS 227A.020 prohibits a person who is not a licensed electrician from performing any of the duties usually performed by a licensee unless the person is under the direct supervision of a licensee who is present onsite where the work is being performed.

Cause: There are no clear guidelines on the tasks that the area-maintenance staff may be required to perform. Oversight of the area maintenance role is delegated to school principals, who may lack the necessary resources to ensure that employees are properly certified and trained for various maintenance duties.

OFE Recommendation 1:

- ✓ Reevaluate the area maintenance position to potentially move it under a central district-level facilities management team. This team should be equipped to monitor compliance, manage training and certifications, and ensure that unlicensed staff do not perform tasks requiring a licensed professional.
- ✓ Document the requirements / limitations of the position regarding tasks area maintenance staff are allowed to perform. Specifically, prohibit tasks that require a licensed electrician unless the employee is directly supervised by a licensed electrician onsite.

OFE 2:

Condition: Untimely Detection of Lapse or Suspension of License (Risk Rating: Low). A lapsed or suspended electrical license may not be detected in a timely manner. Renovations requires employees to maintain a copy of their license while at work. However, license renewal is not formally tracked and monitored.

Criteria: KRS 227A.100, Application for Renewal or Reinstatement of License, states that each licensee shall biennially pay to the department the required renewal fee on or before the last day of the licensee's birth month. Each licensee must submit evidence of completing at least six hours of continuing education per year provided by a state / HBC-approved provider.

Cause: A defined and documented formal process for ensuring employee credentialing is current does not exist. This increases the risk of a suspended or lapsed licensee(s) undertaking a district project.

OFE Recommendation 2:

- ✓ Define and document a formal process for monitoring employee credentialing. This process can include, but is not limited to, randomly selecting a sample of applicable employees periodically throughout the year, verifying their licenses are current, and documenting evidence of the review.

OFE 3:

Condition: Facilities Work Order Software (Risk Rating: Low). The Renovations department has previously requested automated work order software. When specific needs are not met, workarounds are often necessary. For example, only project assignees have access to update labor, hours, and details for each participant on a project with the mobile application. These details must be added to the project's Notes as the system does not have fields unique to these items that can be quickly and easily populated. This creates difficulties in maintaining and assembling critical data to demonstrate compliance with requirements. A system modification is currently being undertaken to improve this condition.

Criteria: Electrical maintenance work is primarily regulated by KARs under Title 815, which requires sufficient documentation demonstrate compliance with safety and licensing standards. Additionally, the Kentucky *Records Retention/Public School District Schedule*, as required by KRS 171.640 and JCBE Policy 01.61, mandates that service requests, work orders, and records detailing the work performed be retained for a minimum of three years.

Cause: IIQ is not a facilities maintenance system designed specifically for the types of projects performed by Renovations. It is used across multiple industries and functions and is therefore not necessarily conducive to promoting compliance with regulatory requirements and project efficiency based on the documentation needs of the department.

OFE Recommendation 3:

- ✓ In addition to continuing to advocate for automated work order software, reevaluate the efficiency and effectiveness of IIQ to determine its practicality in satisfying the minimum requirements.