

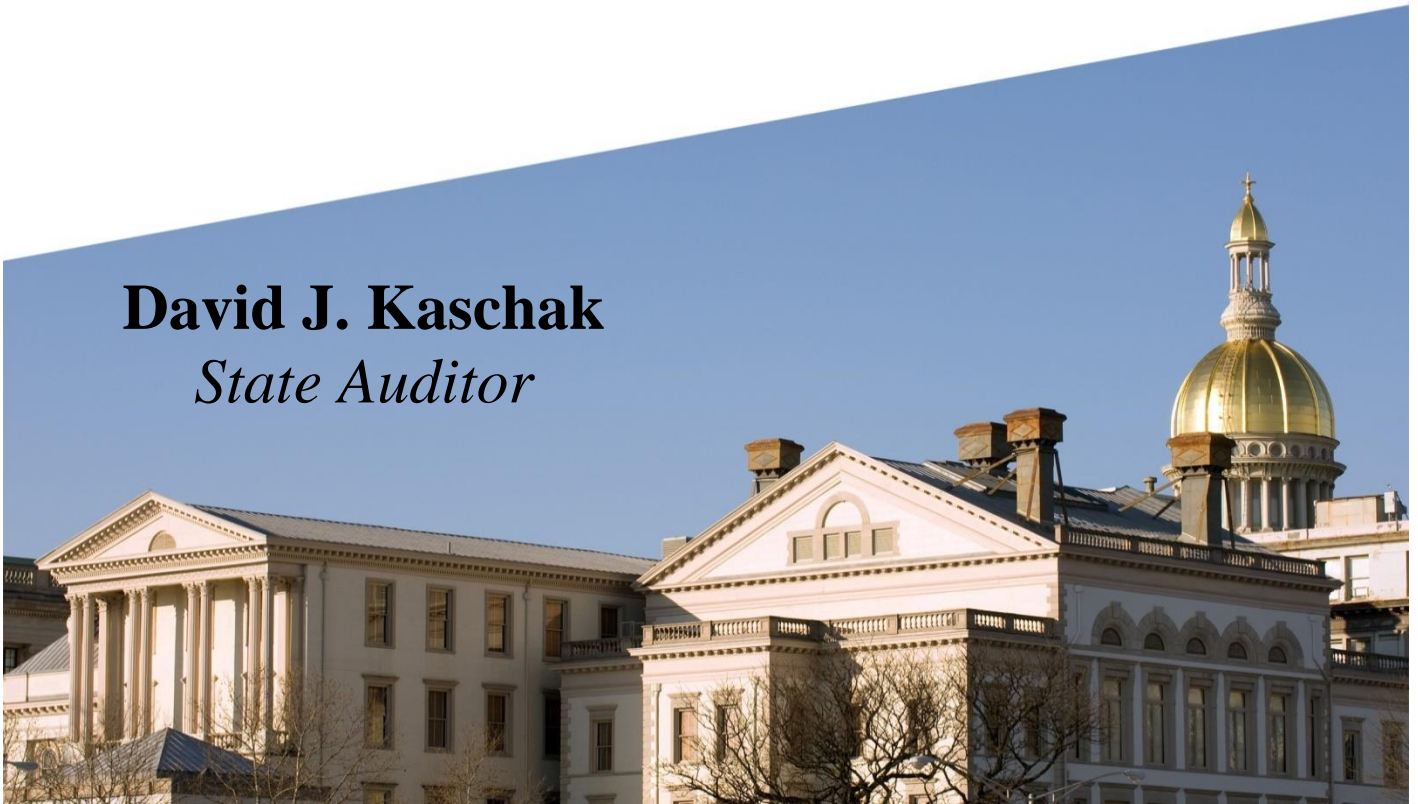


*New Jersey Legislature*  
★ *Office of* LEGISLATIVE SERVICES ★  
**OFFICE OF THE STATE AUDITOR**

Office of Information Technology  
Electronic Cost Accounting and Timesheet System (eCATS)

July 1, 2021 to January 31, 2024

**David J. Kaschak**  
*State Auditor*



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Enclosed is our report on the audit of the Office of Information Technology, Electronic Cost Accounting and Timesheet System (eCATS) for the period of July 1, 2021 to January 31, 2024. If you would like a personal briefing, please call me at (609) 847-3470.

A handwritten signature in cursive script that reads "David J. Kaschak".

David J. Kaschak  
State Auditor  
May 6, 2024

## Table of Contents

Scope.....	1
Objectives .....	1
Methodology .....	1
Data Reliability .....	2
Conclusions.....	2
Background.....	2
Findings and Recommendations	
Contingency Planning.....	3
Change Management .....	3
Observation.....	5
Appendix	
Methodologies to Achieve Audit Objectives.....	7
Auditee Response.....	9

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## *Scope*

We have completed an audit of the Office of Information Technology (OIT), Electronic Cost Accounting and Timesheet System (eCATS) for the period July 1, 2021 to January 31, 2024. The scope of our audit included change management, transaction processing, data integrity, logical access, and contingency planning of the eCATS.

## *Objectives*

The objective of our audit was to determine whether the eCATS general and application controls are working effectively to ensure the confidentiality, integrity, and availability of the application and its data.

This audit was conducted pursuant to the State Auditor's responsibilities as set forth in Article VII, Section I, Paragraph 6 of the State Constitution and Title 52 of the New Jersey Statutes.

## *Methodology*

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 our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Additional guidance for the conduct of the audit was taken from the *Federal Information System Control and Audit Manual (FISCAM)*, published by the U.S. Government Accountability Office, and the *New Jersey Statewide Information Security Manual (SISM)*, published by the New Jersey Office of Homeland Security and Preparedness. These documents were used as the criteria against which internal controls were measured.

In preparation for our testing, we studied legislation, the administrative code, department policies and procedures, and industry best practices. Provisions we considered significant were documented, and compliance was verified by interviews with key personnel, review of application-related documentation, observations, and testing of the general and application controls of the eCATS. In order to achieve our objectives, we performed various tests and analyses as we determined necessary. Additional detail regarding our methodology and work performed can be found in the Appendix, as well as in the findings section when testing resulted in a reportable condition.

A non-statistical sampling approach was used in situations where the entire population was not tested. Our samples were designed to provide conclusions on our audit objectives as well as internal controls and compliance. Sample populations were identified, and items were judgmentally and randomly selected for testing. Because we used a non-statistical sampling approach for our testing, we cannot project the results to the respective populations.

### ***Data Reliability***

We assessed the reliability of the data in the eCATS application by conducting interviews with agency officials knowledgeable about the data and reviewing existing information about the data. In addition, data integrity and transaction testing were performed as part of the audit and found no material issues. We determined that the data were sufficiently reliable for the purposes of this report.

### ***Conclusions***

Overall, we found that the Office of Information Technology has general and application controls and processes in place in the eCATS to ensure the confidentiality, integrity, and availability of the application and its data. However, we noted areas for improvement in controls related to contingency planning and change management. In addition, we are presenting an observation related to the data integrity of leave data that may affect leave time payouts at separation.

Our audit disclosed a reportable condition deemed confidential in nature. This condition was communicated in a confidential management letter provided to agency management only.

### ***Background***

The eCATS is a client/server application with a web-based interface for users originally created by a vendor for a single state department. In 2006, the application was adopted by several other state departments. In fiscal year 2008, the state appropriated \$5.8 million to the OIT for the expanded use of the eCATS across all state agencies. To date, there are 28 state agencies using the eCATS application; however, this does not represent all state agencies. In calendar year 2022, eCATS processed 1,349,472 regular and supplemental timesheets. In addition, the eCATS has the ability to track employee time by job for cost accounting and reimbursement purposes.

The eCATS is managed and owned by the OIT, which also manages the data centers where the hardware is housed. The state maintains and is responsible for the application code; however, many of the system logic and programming requirements are based on Civil Service Commission (CSC) rules. Updates are done quarterly, and the eCATS team is responsible for all changes and updates. The eCATS application has internal interfaces with other executive branch systems as well as external interfaces with the judicial branch and the federal government.

## Contingency Planning

**The Office of Information Technology has not tested the eCATS database backups for restoration.**

According to the OIT, the eCATS application is identified as business essential because it does not impact public safety or civil authority and is not used to sustain the economy. The OIT creates disaster recovery plans for OIT applications supporting mission essential functions only.

The *SISM* requires agencies to perform backups aligned with their recovery time and point objectives for both user-level and system-level data in agency information systems. Additionally, they should annually test backup data to ensure media reliability and information integrity, documenting the test results.

Based on conversations with OIT staff, we found that backups of the eCATS databases have not been tested for restoration. Because the OIT does not perform disaster recovery testing on the eCATS application, periodic testing of the application and database backups is vital. Without this testing, the OIT cannot rely on the media reliability and data integrity, which may impact its ability to successfully restore eCATS in a timely fashion if an event were to occur.

The OIT is migrating the eCATS databases to a new platform. The OIT has expressed that this migration will allow the backup data to be better safeguarded and will provide a means of recovery in case of any unexpected issues. In addition, the OIT is planning to begin regularly testing eCATS backups once the migration is complete.

### Recommendation

We recommend the OIT test the existing eCATS backups to determine their reliability and integrity. In addition, the OIT should establish a regular testing schedule for the eCATS databases and perform those tests as required once the migration is completed, documenting the test results after completion.



## Change Management

**The eCATS change control procedures should be improved, properly documented, and finalized.**

According to the *SISM*, all technology changes to production environments must follow a standard process to reduce the risk associated with change. Agencies shall involve key business stakeholders in the change process to ensure changes are appropriately tested, validated, and documented before implementing any change in a production environment. Change control consists of a wide range of activities, including the establishment of a formal change management

process; proper authorization and approval of all changes; development, documentation, and approval of comprehensive test plans; completion and review of all test results; and retention of an audit trail for all changes. The goal of change management is to prevent unauthorized or unnecessary changes, assess the impact of changes on the computing environment, and maintain necessary documentation of all changes.

Discussions with the OIT Change and Configuration management team found that the current change control policy for the eCATS contained outdated references and has not been formally adopted by the OIT. Therefore, the policy will have to be reviewed and updated before it can be implemented. Based on the *SISM* and the OIT draft policy, we identified criteria that constitute a strong change control process. We then tested ten changes against those criteria to determine the sufficiency of the eCATS change management process and found:

- All changes were missing evidence of a change request evaluation, a test plan, documentation of completed testing, logging of the date the change was made, and evidence of approval of the change;
- Six changes did not have an indication of the success or failure of the change in the tracking system, and;
- Three changes were missing information on the OIT custodian responsible for making the change.

Additionally, one change that was missing required items had to be backed out after completion because the requesting agency did not agree with the change. If this change had followed a formal documented change management process, the issues with the change may have been identified during the evaluation or testing phases.

Sound change management provides strict controls over the implementation of system changes, thereby minimizing potential corruption to an information system. Inadequate controls over the development and modification of programs could result in improper or unauthorized changes being made to the production environment.

### **Recommendation**

We recommend the OIT review the eCATS draft change control policy, update necessary references, ensure alignment with the *SISM* requirements, and adopt and implement the formal policy.



## Observation

### **Employees separating from state service with outstanding incomplete timesheets may be receiving inaccurate accrued leave time payouts.**

The New Jersey Administrative Code requires the state to pay employees exiting state employment for accrued, unused vacation leave. The eCATS tracks leave time for employees who use it for time tracking, and the outstanding balances in the eCATS at separation are used to calculate the accrued vacation time payout.

Currently, non-temporary users of the eCATS are not required to submit a timesheet each pay period to receive their payroll payment. In fact, there is no requirement for these employees to complete a timesheet in any pay period in which they do not use leave time. As a result, the eCATS is not programmed to require timesheets to be completed and approved before employees are paid. It should be noted that this is not a deficiency in the eCATS design – there is no administrative requirement for non-temporary employees to complete timesheets, and the eCATS properly reflects that. When an employee does complete a timesheet (for example, to use leave time), the eCATS requires the employee to fill out all outstanding timesheets and have them approved before the new timesheet can be completed.

In the eCATS, incomplete timesheets are designated as suspense until finalized. Suspense timesheets serve solely for allocating salary payments to specific programs without approved timesheets. Upon approval of the actual timesheet, salary costs are redistributed to the specified job numbers, sub-job numbers, activity codes, and sub-activity codes. The outstanding timesheets could be for pay periods that include entries for leave time not yet recorded in the eCATS. If an employee separates from state service without finalizing all timesheets, any leave time that was taken in those pay periods remains unaccounted for. This would cause the eCATS leave time balance used to calculate the payout to be overstated, resulting in an overpayment to the employee.

We identified 415 active eCATS users with at least one outstanding timesheet in suspense, 46 of which had two or more timesheets outstanding. The maximum number of timesheets outstanding for an employee was 46, with four individuals falling into that category. For the individuals with more than one timesheet outstanding, the average number of outstanding timesheets was nine. We matched those users with a list of lump-sum vacation payments made between July 1, 2021 and December 31, 2023 and found 18 users who received a lump-sum vacation leave payout after separating from service while having incomplete timesheets at the time of separation. One user had multiple outstanding timesheets. We determined that those employees were paid their lump-sum leave payment based on their outstanding leave balances in the eCATS as of their separation from service.

If the outstanding timesheets had been completed and leave time had been used during those pay periods, the resulting lump-sum vacation leave payout for the employee may have been lower than what was actually paid to them. However, without the completed timesheet there is no way to determine if there was any overpayment. This issue could be exacerbated if any of the

previously identified active users with outstanding timesheets separated from service without completing them.



## *Appendix*

### **Methodologies to Achieve Audit Objectives**

In addition to the procedures outlined in the findings, we performed the following audit procedures to reach our conclusions:

#### Logical Access

To gain an understanding of the logical access authentication environment, we documented the controls over the granting, modification, and removal of user access. To determine whether transferred employees had maintained access to their previous department, we analyzed the eCATS user accounts to verify that transferred users were assigned to a new department location. To determine if system access levels were appropriate, we identified the various roles in the application and reviewed the system administration role users for appropriateness.

To determine if separated employees are having their access to the system removed on a timely basis, we matched all eCATS active user accounts to separation records from the state's personnel management system.

To determine if the system allows only the proper number of supervisors for a user, we analyzed user records to identify the number of supervisors and surrogate supervisors assigned to each user's timesheet tabs.

To determine if session termination is working as intended, we performed a test of session termination controls. To determine if password controls are adequate, we documented the password requirements of the myNJ Portal.

#### Transaction Processing

To determine if temporary employees were charging more than the CSC allowed total of hours without an exemption, we analyzed time records for temporary employees for fiscal year 2023 and compared the results to the CSC exemptions. To determine if the eCATS allows employees to overdraw their leave balances, we analytically reviewed the 2021, 2022, and 2023 eCATS data for users with unexplained negative leave balances.

#### Configuration (Change) Management

To determine if the eCATS application is scanned for system vulnerabilities on a regular basis, we documented the most recent vulnerability scan of the application.

#### Data Integrity

To determine the accuracy, reliability, and consistency of the data within the eCATS application,

we obtained an understanding of the reconciliation process within the eCATS application for any changes to the data that comes back after the time records are processed by payroll. In addition, we assessed how the eCATS application data is transformed and loaded in the data warehouse and traced a sample of the data warehouse output to the eCATS source data.





## State of New Jersey

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May 6, 2024

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### **Re: Electronic Cost Accounting and Timesheet System (eCATS) Audit**

Dear Mr. Kaschak:

With regard to your audit of the Electronic Cost Accounting and Timesheet System (eCATS) at OIT, we would like to provide the following comments on the OSA's recommendations made via audit report covering the period July 1, 2021, to January 31, 2024:

#### **Contingency Planning:**

Concerning the backups of e-CATS databases, OIT has migrated the e-CATS databases from ExaData X4 to ExaCC. Migrating them to a more advanced cloud platform, like ExaData Cloud-at-Customer (ExaCC), will allow the data backup to be better safeguarded. Additionally, it will soundly provide data recovery should unexpected issues occur.

The process of regularly testing e-CATS backups is in its deployment/testing phase. OIT's implementation is set to be completed in the second calendar quarter of 2024.

#### **Change Management:**

The OIT Internal Configuration Management and Change Control Policy has been updated as necessary to ensure alignment with the SISIM requirements and will be published on the OIT intranet for OIT to utilize.

Mr. David J. Kaschak

May 6, 2024

Page 2

Finally, we appreciate the cooperative manner in which you and your staff conducted this audit. Your recommendations are well regarded as OIT is committed to continual improvement. If you have any further comments, please contact Stephen Foundos at 609-376-7056. He will be available to expedite any communications throughout OIT.

Sincerely,

A handwritten signature in blue ink, appearing to read 'CJR', with a stylized flourish extending to the right.

Christopher J. Rein  
Chief Technology Officer

cc: Lisa Blauer, Chief of Staff  
Stephen Foundos, OIT Auditor