Data Validation Audit

March 2019 – February 2021

April 2022

Prepared by the Audit Office Report Number: 21-04

EXECUTIVE SUMMARY

The Audit Office of the California High-Speed Rail Authority (Authority) performed an audit to validate data in two software systems: geoAMPS and EcoSys. The geoAMPS system is used by the Authority, its Rail Delivery Partner and Right-of-Way consultants for planning and management of the entire right-of-way process. The EcoSys system is the capital cost management system used by the Authority to track budgets, schedules, funding, and expenditures associated with scope and contingencies.

The purpose of the audit was to determine if the data within the geoAMPS and EcoSys systems is accurate and supportable. The objectives were to determine:

- The accuracy of data contained with geoAMPS and EcoSys; and
- If the process to transfer data into the systems was reasonable.

The scope of the engagement was limited to data from March 1, 2019, through February 28, 2021, plus data transferred from prior systems. Our audit included examining policies, procedures, and any other relevant criteria, interviewing personnel, and conducting tests necessary to complete the objectives.

We found that the data within geoAMPS and EcoSys was generally accurate. However, we found instances where the data in geoAMPS differed when compared to the source documents. We concluded that the lack of documented policies and procedures for geoAMPS processes was the cause. In addition, variances found did not affect monthly reporting.

We recommend that the Authority develop detailed procedures for all geoAMPS users and institute a Quality Assurance/Quality Control process for data within geoAMPS.

Paula Rivera

Paula Rivera, Audit Chief

April 12, 2022

Date

Audit Report

BACKGROUND

The California High-Speed Rail Authority (Authority) is responsible for planning, designing, building, and operating the first high-speed rail system in the nation. California high-speed rail will connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs, and preserve agricultural and protected lands.

To fulfill its responsibilities, the Authority uses multiple software systems to track data to better manage the Authority project. Two of the systems used are geoAMPS for the Right-of-Way (ROW) program and EcoSys to track capital costs.

GeoAMPS and EcoSys are intended to be the "single source of truth" for the Authority. Data from geoAMPS is used for the right-of-way portion of the Central Valley Status Report and data from EcoSys is used to create the Capital Outlay Report, both of which are presented during the Authority's monthly Finance and Audit Committee Meetings and posted on the Authority's website. The Authority's Rail Delivery Partner, WSP, Inc. (previously Parsons Brinckerhoff, Inc.) entered into an agreement with GeoAMPS, LLC and EcoSys to provide information technology software services and for software licenses and maintenance services.

The Authority's Real Property Branch of the Program Delivery Office currently uses GeoAMPS, LLC land rights and infrastructure asset management software, specifically its transportation project planning and management software product. The Real Property Branch utilizes geoAMPS as a database to track all forecasted and actual milestone dates for all land acquisition and land conveyance parcels needed by the Authority. GeoAMPS also can create reports which are used by the Real Property Branch for status updates and to track progress for each parcel.

EcoSys is a cloud-based software that is used to manage transactions related to budget, expenditures, changes, forecasts, and the generation of monthly reports into a single platform. The Authority's Financial Office and the Project Controls Branch of the Risk Management Office are the main users of EcoSys. The software is used to track the project's capital costs. It also has a feature to forecast changes to the budgets to determine the effects of the changes in other budgets and to the schedule. Although EcoSys has the feature to generate reports, its main use is as a database. The reports that are generated from EcoSys are used as a tool to assist with the creation of the monthly Capital Outlay reports.

OBJECTIVES, SCOPE, and METHODOLOGY

The purpose of our audit was to determine if the data within the geoAMPS and EcoSys systems is accurate and supportable. The objectives were to determine:

- The accuracy of data contained with geoAMPS and EcoSys; and
- If the process to transfer data into the systems was reasonable.

The scope of the engagement was limited to data from March 1, 2019, through February 28, 2021, plus all transitional data. Our audit included examining policies, procedures, and any other relevant criteria, interviewing personnel, and conducting tests necessary to complete the objectives.

This audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing. The results of the audit were discussed with management on January 21, 2022. The Real Property Branch of the Program Delivery Office provided a response, which is summarized in this report and included in its entirety as an attachment. This report is intended as information for management's use; however, this report is a public document, and its distribution is not limited. We appreciate the Authority's time and cooperation throughout the audit and look forward to assisting the Real Property Branch, Finance Office, and Management as needed.

CONCLUSION

Our audit found that the data within geoAMPS and EcoSys was generally accurate. However, we found instances where the data in geoAMPS differed when compared to the source documents. Data was recorded and reported inconsistently in multiple phases of the processes. The inconsistencies we found were within reporting periods and there was no effect on the monthly Central Valley Status Report.

The findings identified are detailed below.

Issue 1: Unsupported Data for geoAMPS

Our testing of a total of 579 data fields for ROW and Land Conveyance parcels revealed that 242 (37%) data fields were unsupported with any documents. 213 of the unsupported data fields were Re-Baseline (RBS) Dates composed of 153 ROW and 60 Land Conveyance parcels. RBS dates were entered from dates of e-mails sent when updating dates. E-mail Records were not preserved in accordance with POLI-1015; therefore, in accordance with the Record Retention Schedule, they were considered Transitory Emails and discarded after 90 days.

There were 29 ROW and Land Conveyance data points from other fields tested that were also unsupported with source documents. The unsupported ROW fields were 10 Legal Possession dates and five Delivered to the Design Builder (DB) dates. The 14 unsupported Land Conveyance dates were the Third-Party Approval dates.

A contributing factor to this high rate of unsupported documents is that the Real Property Branch does not have written procedures on documenting information, where information should be stored, and type of information to be stored to support data within geoAMPS.

Recommendation

The Real Property Branch should develop a procedure for consistency of what data is to be used, where to store source documents, and what type of documents to maintain to support data within geoAMPS or a successor system.

Response

The Real Property Branch developed a process in place with a Parcel Change Request Form that identifies the necessary information for the parcel and requires signatures from the Design Build Oversight Manager, Director of Infrastructure Delivery, and Director of Real Property. These forms are stored on SharePoint for record purposes. The Parcel Change Request form process will be documented in procedures developed for the successor system.

Analysis

We agree with the corrective action identified.

Issue 2: Incorrect Data within geoAMPS

Our testing showed that 45 data fields of the 579 data fields tested had incorrect dates when compared to their source documents. 31 of the 45 parcels had a discrepancy of one to seven days. These dates include 27 data fields for ROW Delivered to DB and four data fields for Land Conveyance Third-Party Approval.

The remaining 14 data fields with date discrepancies crossed into different months when we compared the geoAMPS dates to their source documents. These dates include six data fields for ROW Legal Possession Date, three data fields for ROW Delivered to DB and five data fields for Land Conveyance Third Party Approval. We found these discrepancies did not affect the monthly Central Valley Status Report because the parcels were not reported twice.

We found the main cause of the unsupported and incorrect data within geoAMPS is the lack of procedures which would establish uniform practices for the varying staff working on ROW. During the audit, we found each Construction Package had their own undocumented procedures established but these procedures are not communicated laterally to the other Construction Packages nor to management.

Recommendations

The Real Property Branch should develop and implement documented procedures that will assist users of geoAMPS, or a successor system. Procedures should provide detailed instructions on what data should be entered to the system to avoid inconsistencies. With established procedures, management should periodically review and evaluate the effectiveness of the procedures and determine if changes are needed.

The Real Property Branch should implement a Quality Assurance / Quality Control process to verify data is accurately input into the geoAMPS system.

Response

Procedures to document the data to be entered into the system will be written for the successor system. The procedures will include a process for quality assurance/quality control as well as a periodic review of the effectiveness of the procedures.

Analysis

We agree with the corrective actions identified.

Date: April 4, 2022

To: Paula Rivera, Chief Auditor

From: Dennis Kim, Director of Real Property

Subject: Response to Audit Office Data Validation Audit Report (21-04)

The California High-Speed Rail Authority (Authority) Real Property Branch appreciates the opportunity to provide a response to the Authority's Audit Office Data Validation Audit Report (21-04). The audit noted two areas for improvement: first in the area unsupported data for GeoAMPs; and second in the area of incorrect data within GeoAMPs.

The Real Property Branch concurs with the recommendations and provides the following responses:

Issue 1: Unsupported Data for geoAMPS

Recommendation

The Real Property Branch should develop a procedure for consistency of what data is to be used, where to store source documents, and what type of documents to maintain to support data within geoAMPS or a successor system.

Response

The Real Property Branch developed a process in place with a Parcel Change Request Form that identifies the necessary information for the parcel and requires signatures from the Design Build Oversight Manager, Director of Infrastructure Delivery, and Director of Real Property. These forms are stored on Sharepoint for record purposes. The Parcel Change Request form process will be documented in procedures developed for the successor system.

Issue 2: Incorrect Data within geoAMPS

Recommendations

The Real Property Branch should develop and implement documented procedures that will assist users of geoAMPS, or a successor system. Procedures should provide detailed instructions on what data should be entered to the system to avoid inconsistencies. With established procedures, management should periodically review and evaluate the effectiveness of the procedures and determine if changes are needed.

The Real Property Branch should implement a Quality Assurance / Quality Control process to verify data is accurately input into the geoAMPS system.

Response

Procedures to document the data to be entered into the system will be developed for the successor system. The procedures will include a process for quality assurance/quality control as well as a periodic review of the effectiveness of the procedures.

Dennis Kim 4/5/2022

Dennis D. Kim, Director of Real Property