



Department of Education

Internal Audit

Equipment and Fleet Maintenance Follow-Up Review

Issue Date: January 2018

Report Number: FY2018-01

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Executive Summary

AUDIT OF: Equipment and Fleet Maintenance Follow-up Review	DATE: Fieldwork performed October 2017 – November 2017	AUDIT RATING: Acceptable [<input type="checkbox"/>] Marginal [<input checked="" type="checkbox"/>] Unacceptable [<input type="checkbox"/>]
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INTRODUCTION:

In connection with the Department of Education’s (DOE) Updated Risk Assessment and Internal Audit Plan approved on May 2, 2017, Internal Audit (IA) performed an “*Equipment and Fleet Maintenance Follow-Up Review*.” The purpose of this review was to assess the implementation of Management’s Plans as described in the “*Equipment and Fleet Maintenance Review*” issued in July 2014.

BACKGROUND:

Facilities Maintenance Branch (FMB) is an operating unit within the Office of School Facilities and Support Services (OSFSS). FMB is tasked with the repair and maintenance activities for all public schools on the island of Oahu and has approximately 175 employees. Repair and maintenance activities are managed through five district baseyards: Leeward, Central, Windward, Honolulu, and Support. Each district provides coverage over its designated region of the island except for the Support district, which supports the entire island. In addition to the five baseyards, there are also four lawn mower baseyards (Leeward, Central, Windward, and Honolulu) and two mechanic shop garages (Support and McKinley High).

The two mechanic shop garages in FMB only repair the equipment and vehicles under the FMB section and some vehicles owned by the Department of Accounting and General Services (DAGS), as in compliance with the Memorandum of Understanding; however, they do not repair the vehicles owned by the individual schools or offices. The total cost of the high value equipment (i.e. mowers, tractors, trailers, lifts, etc.) and vehicles under FMB is approximately \$6,700,000¹ which includes roughly 160 high value equipment and 215 motor vehicles, as of October 31, 2017, in FMS inventory. These items are located throughout the baseyards.

Each mechanic shop garage creates and maintains an annual schedule of the maintenance service for each of the high value equipment and vehicles. The maintenance service jobs are performed approximately every six months except for trailers which are serviced annually and heavy equipment which is serviced on an “as used” basis. The maintenance service includes, but is not limited to, oil changes, safety checks, and inspection of parts. FMB uses IBM’s Maximo Asset Management software (Maximo) to track its work orders and TR asset inventory.

Work orders are inputted in to Maximo for each type of maintenance or repair job by either the Foreman or District Manager. The work order (hard copy) is assigned to a mechanic and includes the estimated labor and supplies/materials needed. The Foreman documents what materials/supplies were used and the actual labor hours. The Foreman and District Manager review the work order and send it to the “Response Center” who then manually inputs the actual results in Maximo using the work order and the “Daily Job Sheets.” Management also periodically reviews the work orders.

¹ This amount does not include depreciation nor has it been audited to ensure that it includes all of FMB’s inventory updates (i.e. additions, transfers or disposals of assets).

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Executive Summary

The FMB fuel program allows authorized DOE employees to fuel approved DOE owned assets including vehicles, high value equipment, and fuel storage containers. Each vehicle has assigned fuel cards to be used at DAGS gas stations or Aloha Petroleum gas stations. The mileage must be entered at the pump to track the fuel consumption. Fuel for equipment (except lawn mowers) should be placed on the “Miscellaneous Equipment” fuel card assigned to each baseyard. Fuel for lawn mowers should be placed on the vehicle fuel card as a separate transaction. The fuel card limit is set to \$100.00 per transaction and two (2) transactions per day. Fuel records are reviewed by supervisors.

Dann Carlson is the Assistant Superintendent of the OSFSS. His staff at FMB that are involved in the equipment and fleet maintenance process includes Francis Cheung, Administrator; Guy Mikasa, Work Program Specialist; Bryan Kawasaki, Procurement and Supply Specialist; William Gebhardt, Engineer; Scot Sueoka, General Maintenance and Services Superintendent; Lemuel Keomaka, District Manager-Support Services; and Donna Au, Secretary.

Policies and procedures governing repair and maintenance functions are found in various forms which include Maximo training manuals, maintenance service guidelines, process flow charts, Standard Operating Procedures (SOPs), and various memos and notices posted in Lotus Notes.

SCOPE and OBJECTIVES:

The scope of our review included an examination of Management’s corrective action plans. In addition, we reviewed the design and operating effectiveness of the existing control procedures in place for the equipment and fleet maintenance process. The scope of our review specifically focused on the processes related to the following subcategories:

- Equipment and Automotive Repair & Maintenance
- Work Order System – Maximo
- Safeguarding of Assets
- Inventory Tracking

The objectives of our review included the following:

1. To ensure that Management adequately addressed and resolved the audit findings that resulted from the “*Equipment and Fleet Maintenance Review*” issued in January 2013.
2. To perform detailed test work to determine the operating effectiveness of the procedures put into place to remediate the findings from the prior year report.

OBSERVATIONS:

Based upon our review, we noted that three (3) out of the four (4) prior audit findings from the previous review are still recurring. However, we did notice significant improvements in written policies and procedures. As such, we found the DOE’s controls related to equipment and fleet maintenance are functioning at a “marginal” level. A marginal rating indicates that there may be a potential for loss to the auditable area and ultimately to the DOE. Some improvements are necessary to bring the unit to an acceptable status, and if weaknesses continue without attention, further deterioration of the rating to an unacceptable status may occur.

The following is a status summary of the prior audit findings from the “*Equipment and Fleet Maintenance Review*” along with the corrective action plans by Management and the related current observations.

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Executive Summary

	Prior Audit Finding	Prior Audit Rating	Prior Audit Management's Corrective Action Plan Status	Current Observation Testing Results
1	Lack of written policies, procedures and monitoring over the maintenance process	Moderate	<p>Completed:</p> <ul style="list-style-type: none"> • Established written policies and procedures for the preparation of vehicle maintenance schedules. • Incorporated manufacturer's recommendations for new equipment in the policies and procedures. • Established written policies and procedures to review maintenance schedules to ensure all vehicles are accounted for. • Established written policies and procedures to ensure newly purchased and disposed of assets are updated in Maximo. • Updated the "Fleet Management Plan" which will define when FMB should replace a vehicle. 	No finding noted
2	Lack of written policies and procedures and monitoring over the fuel program	High	<p>Completed:</p> <ul style="list-style-type: none"> • Established written policies and procedures for proper fuel card usage. • Created standardized logs and forms for issuance of fuel cards. • Established written policies and procedures to track and monitor fuel consumption and processes to log fuel consumption by high value equipment. • Provided training to go over the responsibilities of a fuel card, including consequences for improper usage. • Created fuel reports for upper Management to analyze fuel consumption. • Reduced fuel card transaction limit to \$100.00 per transaction. 	Parts of finding still exist. See Observation 2

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Executive Summary

	Prior Audit Finding	Prior Audit Rating	Prior Audit Management's Corrective Action Plan Status	Current Observation Testing Results
3	Lack of documentation and clerical errors resulting from manual processes.	Low	<p>Completed:</p> <ul style="list-style-type: none"> • Implemented attaching preprinted inventory material inventory sheets to work orders to streamline the material data input and reduce input delays. • Set timelines for data input so reports can be run monthly. • Continue to remind foreman that they need to review work orders for any overages of estimated hours. 	Parts of finding still exist. See Observation 3
4	Internal controls over inventory are still lacking	High	<p>Completed:</p> <ul style="list-style-type: none"> • The main recommendation to create Inventory Manager positions was not funded in the biennium budget so FMB was not able to implement this corrective action plan. • Implemented the “automatic reorder point” function in Maximo that generates purchasing requisitions for certain supply items when the supply level hits a certain level. 	Parts of the finding still exist, see Observation 1

Please refer to the Risk Ratings section of this report (page 6) for a complete definition of the ratings used by IA and the Observations and Recommendations section for a detailed description of our findings.

Although there were improvements on creating written policies and procedures, IA still noted repeat findings. We discussed our preliminary findings and recommendations with Management and they were receptive to our findings and agreed to consider our recommendations for implementation.

Each observation presented in this report is followed by specific recommendations that will help to ensure that control gaps are addressed and, if enforced and monitored, will mitigate the control weaknesses. In summary, our observations are as follows:

1. Need for better oversight, monitoring, tracking, and accountability
2. Procedures are not always followed: Fuel purchasing
3. Inefficiencies due to manual processes

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Executive Summary

PLANNED FOLLOW UP BY MANAGEMENT AND INTERNAL AUDIT:

IA will follow up with Management on their progress of completion for their action plans, and report accordingly through the audit committee quarterly updates.

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Rating Scale Definitions

OVERALL RATING SCALE	
<i>Acceptable</i>	No significant deficiencies exist and improvement continues to be appropriate; controls are considered adequate and findings are not significant to the overall unit/department.
<i>Marginal</i>	Potential for loss to the auditable unit/department and ultimately to the DOE. Indicates a number of observations, more serious in nature related to the control environment. Some improvement is needed to bring the unit to an acceptable status, but if weaknesses continue without attention, it could lead to further deterioration of the rating to an unacceptable status.
<i>Unacceptable</i>	Significant deficiencies exist which could lead to material financial loss to the auditable unit/department and potentially to the DOE. Corrective action should be a high priority of Management and may require significant amounts of time and resources to implement.

OBSERVATION RATING SCALE	
<i>High (1)</i>	<p>1 - The impact of the finding is <i>material</i>¹ and the likelihood of loss is probable in one of the following ways:</p> <ul style="list-style-type: none"> • A material misstatement of the DOE's financial statements could occur; • The DOE's business objectives, processes, financial results or image could be materially impaired; • The DOE may fail to comply with applicable laws, regulations or contractual agreements, which could result in fines, sanctions and/or liabilities that are material to the DOE's financial performance, operations or image. <p><i>Immediate action is recommended to mitigate the DOE's exposure.</i></p>
<i>Moderate (2)</i>	<p>2 - The impact of the finding is <i>significant</i>¹ and the likelihood of loss is possible in one of the following ways:</p> <ul style="list-style-type: none"> • A significant misstatement of the DOE's financial statements could occur; • The DOE's business objectives, processes, financial performance or image could be notably impaired; • The DOE may fail to comply with applicable laws, regulations or contractual agreements, which could result in fines, sanctions and/or liabilities that are significant to the DOE's financial performance, operations or image. <p><i>Corrective action by Management should be prioritized and completed in a timely manner to mitigate any risk exposure.</i></p>
<i>Low (3)</i>	<p>3 - The impact of the finding is moderate and the probability of an event resulting in a loss is possible.</p> <p><i>Action is recommended to limit further deterioration of controls.</i></p>

¹ The application of these terms are consistent with the guidelines provided by the Institute of Internal Auditors

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

The detailed observations noted herein were based on work performed by IA through the last date of fieldwork and are generally focused on internal controls and enhancing the effectiveness of processes for future organizational benefit. Many of these findings are repeat findings from the July 2014 Internal Audit “*Equipment and Fleet Maintenance Review.*”

Obs. No	Description	Page #
1	Need for better oversight, monitoring, tracking, and accountability	8
2	Procedures are not always followed: Fuel purchasing	10
3	Inefficiencies due to manual processes	13

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

Observation Number: 1

Observation: Need for better oversight, monitoring, tracking, and accountability

Rating: Moderate

This current observation is a repeat finding from the July 2014 Internal Audit “*Equipment and Fleet Maintenance Review*.” Based on IA’s review, we found that oversight, monitoring, tracking, and accountability are not being performed at an acceptable level. As noted in the Executive Summary, FMB uses IBM’s Maximo Asset Management software (Maximo) to track its work orders and TR asset inventory. Work orders are manually created in Maximo for each job by either the Foreman or District Manager. The work order (hard copy) is assigned to a mechanic and includes the estimated labor and supplies/materials needed. Completed work orders are then inputted into Maximo by the “Response Center.” The following tables reference the exceptions noted during our review:

- IA tested 52 completed work orders and noted the following exceptions during our review:

Work Orders:

Reference(s)	Summary of Observations Noted
<ul style="list-style-type: none"> • Hours noted on the work order and “Daily Job Sheet” should agree to the labor hours noted in Maximo. • The “Asset” field should always be completed when entering a work order into Maximo to ensure all work performed on an asset can be traced and reviewed. 	<ul style="list-style-type: none"> • Nine (9) out of 52 samples where the labor hours recorded into Maximo differed from the labor hours recorded on the work order. This may either be due to data entry error or hours noted on “Daily Job Sheet” differ from work order hours. • Eleven (11) out of 52 samples did not have an asset number listed on the work order and the asset number was not entered into Maximo.

- IA performed site visits and detailed testing on a sample of 70 vehicles and high value equipment and compared it to the inventory records. The following exceptions were noted during our review:

Inventory:

Reference(s)	Summary of Observations Noted
<ul style="list-style-type: none"> • All vehicles and high dollar value equipment should be listed as an asset in Maximo. Additionally, each asset status and physical location should be updated regularly and in a timely manner. 	<ul style="list-style-type: none"> • Four (4) out of 70 samples where the physical location differed from the location listed in Maximo. • Two (2) out of 70 samples were not listed as an asset in Maximo but were at a baseyard and in service. • Four (4) samples that were disposed of or in the process of being disposed were still listed as ‘Operating’ in Maximo. Paperwork was not completed for the disposed assets.

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

- In addition, during IA’s testing of fuel cards, we noted that FMB does not have a master tracking list of fuel cards assigned to each vehicle. The list should include the location of the card and for which asset it is assigned to. It should also be maintained for any updates for lost or replaced cards.

Impact

Lack of oversight, monitoring, tracking, and accountability may possibly lead to:

- Inaccurate data and recordkeeping.
- Unauthorized and improper purchases which may result in a financial loss to the DOE.
- Misplaced assets.

Recommendation and Management Plan

Recommendations for oversight, monitoring, tracking, and accountability include:

- **Recommendation:** Management should be diligent in their efforts to provide oversight, monitoring, and tracking of established FMB SOPs. Training should continue to be provided and all employees should be held accountable to following the SOPs.

Management Plan: Management will review SOPs with employees and refresher classes will be provided to all employees annually.

Anticipated Completion Date: March 2018

- **Recommendation:** Management should create a tracking list of all fuel cards. The list should include the location of the card and for which asset it is assigned to. It should also be maintained for any updates for lost or replaced cards.

Management Plan: Management will create a database to track all vehicle and fuel cards in FMB Maximo System by March 2018. The data will be updated whenever there is a change. FMB Management will have access to the data.

Anticipated Completion Date: March 2018

- **Recommendation:** Management should perform physical inventory on a timely basis and update Maximo for any changes noted during the inventory count.

Management Plan: Management will perform semi-annual physical inventory counts and update changes on a timely basis. Management will also review the current process and ensure that adequate parties are notified as changes occur to update inventory.

Anticipated Completion Date: July 2018

Contact Person: Dann Carlson, Assistant Superintendent, OSFSS
Francis Cheung, Facilities Maintenance Branch Administrator

Responsible Party

Facilities Maintenance Branch, OSFSS

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

Observation Number: 2

Observation: Procedures are not always followed: Fuel purchasing

Rating: Moderate

This current observation is a repeat finding from the July 2014 Internal Audit “*Equipment and Fleet Maintenance Review.*” As stated in the Executive Summary, FMB has established written Standard Operating Procedures since the last review performed in 2014; however, based on IA’s review, we found that procedures are still not being performed at an acceptable level.

The FMB fuel program allows authorized DOE employees to fuel approved DOE owned assets including vehicles, high value equipment, and fuel storage containers. Each vehicle has assigned fuel cards to be used at DAGS gas stations or Aloha Petroleum gas stations. Fuel for the equipment (except lawn mowers) should be placed on the “Miscellaneous Equipment” fuel card assigned to each baseyard. Fuel for lawn mowers should be placed on the vehicle fuel card as a separate transaction. The fuel card limit is set to \$100.00 per transaction and two (2) transactions per day.

IA tested two months of fuel purchases which included a sample size of 40 automobile and equipment fuel cards. The following table references the exceptions noted during our review:

Fuel Purchasing:

Reference(s)	Summary of Observations Noted
Daily Automotive Equipment Use Record and Mower Monthly Fuel Purchase Log	
<ul style="list-style-type: none"> • When purchasing fuel with a fuel card, the vehicle odometer reading or mower hour reading needs to be input into the fuel pump. The <i>Daily Automotive Equipment Use Record</i> or <i>Mower Monthly Fuel Purchase Log</i> should be filled out after the purchase with the date, odometer or hour reading, and the number of gallons filled. • Start and end odometer readings along with destinations traveled should be logged whenever a vehicle is driven to a destination. 	<ul style="list-style-type: none"> • Eleven (11) out of 40 samples where a <i>Daily Automotive Equipment Use Record</i> or <i>Mower Monthly Fuel Purchase Log</i> was missing an entry for the purchase of fuel. • Six (6) out of 40 samples where the odometer or mower hour reading on the <i>Daily Automotive Equipment Use Record</i> or <i>Mower Monthly Fuel Purchase Log</i> did not agree to the readings on the monthly fuel invoice. • One (1) out of 40 samples where destinations and odometer readings were not noted on the <i>Daily Automotive Equipment Use Record</i> for most of the month.
Fuel Purchasing Card	
<ul style="list-style-type: none"> • Each vehicle is assigned a fuel purchasing card and that card should not be used to fuel another vehicle. 	<ul style="list-style-type: none"> • One (1) out of 40 samples indicated that a fuel card was used to fuel a vehicle it was not assigned to.

Based on inquiries with FMB, IA noted that FMB performs monthly reviews for a sample of fuel card purchases. They review for gas consumption levels, gas types, etc. During IA’s detailed testing of fuel cards, we confirmed that FMB performed periodic reviews during our testing period.

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

Impact

Policies and procedures not always followed may possibly lead to:

- Loss of funds by the DOE due to possible abuse of fuel cards.
- Inaccurate data and recordkeeping.
- Potential employee fraud which may result in a misappropriation of assets.

Recommendation and Management Plan

Recommendations for policies and procedures not always followed include:

- **Recommendation:** Management should continue their monthly review over the mileage logs and fuel purchasing process. Management should make a notation on the mileage logs to indicate that the review was performed. Management should also continue to remind employees about the policies and procedures.

Management Plan: Management will implement a checklist to be sure each vehicle has a mileage log and is turned in monthly, with all receipts attached, even if no transactions took place during the month. Management will also review the logs to ensure accuracy. Management will review SOPs with employees and refresher classes will be provided to all employees annually.

Anticipated Completion Date: March 2018

- **Recommendation:** Management should require that the *Daily Automotive Equipment Use Record or Mower Monthly Fuel Purchase Logs* be properly completed and submitted on a daily basis. District Managers at each baseyard should do a daily spot check to ensure that all logs are completed. At the end of each month, Management should electronically input the data from the logs onto a spreadsheet and run an analysis for fuel consumption reasonableness test. Anomalies should be researched and resolved in a timely manner.

Management Plan: District Supervisors will perform weekly spot checks to be sure all transactions/receipts are accounted for and match each individual's log sheet. Management will collect the sheets monthly and log information in a database to analyze the data monthly for deficiencies and errors.

Anticipated Completion Date: July 2018

- **Recommendation:** Management should consider methods to automate the mileage tracking processes to help increase the accuracy of reporting.

Management Plan: Management will input data monthly to analyze data for deficiencies or concerns that occur and address it with employees.

Anticipated Completion Date: July 2018

Contact Person: Dann Carlson, Assistant Superintendent, OSFSS
Francis Cheung, Facilities Maintenance Branch Administrator

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

Responsible Party
Facilities Maintenance Branch, OSFSS

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Observations

Observation Number: 3
Observation: Inefficiencies due to manual processes Rating: Low
<p>This current observation is a repeat finding from the July 2014 Internal Audit “<i>Equipment and Fleet Maintenance Review.</i>” Based on IA’s review, FMB has made some efficient process improvements such as preventive maintenance which is now automatically generated with Total Resource Management (TRM); however, creating and entering work orders into Maximo continues to be a lengthy manual process. Hard copy work orders are still used and assigned to a mechanic to track hours spent and supplies/materials used towards completing the work order.</p> <p>When the work order is completed, the mechanic notes their hours on the “Daily Job Sheet” and the Foreman documents what materials/supplies were used and the actual labor hours on the work order (hard copy). The Foreman and District Manager reviews the work order and sends it to the “Response Center” who then manually inputs the actual results in Maximo using the work order and the “Daily Job Sheets.” The manual process is both time consuming and labor intensive which leads to backlog and clerical errors.</p> <p>FMB Management stated that they are planning on implementing mobile handheld devices to enter information into Maximo. This will greatly reduce the time required to enter information into Maximo by eliminating the manual input process by the “Response Center.” The process is pending the move of FMB Maximo servers to IBM Cloud which is targeted to be complete by December 2018. The use of mobile devices will then be implemented by March 2019.</p>
Impact
The manual work order process is an inefficient and time consuming process for FMB. Such inefficiencies result in wasted resources and financial loss to the DOE and provide inaccurate tracking of the actual labor and expenses.
Recommendation and Management Plan
<p>Recommendations for inefficient manual processes include:</p> <ul style="list-style-type: none"> ➤ Recommendation: Management should continue their efforts on streamlining the data entry process. Management should also continue to work with OITS to pursue the implementation of the mobile devices for Maximo. <p>Management Plan: Management will continue to pursue mobile devices in order to streamline data entry processes.</p> <p>Anticipated Completion Date: March 2019</p> <p><u>Contact Person:</u> Dann Carlson, Assistant Superintendent, OSFSS Francis Cheung, Facilities Maintenance Branch Administrator</p>
Responsible Party
Facilities Maintenance Branch, OSFSS

Department of Education
Equipment and Fleet Maintenance Follow-Up Review

Acknowledgements

IA wants to acknowledge FMB for their continuous improvement on equipment and fleet maintenance processes. We wish to express our appreciation for the cooperation and assistance afforded to the review team by Management and staff during the course of this review.