Department of Veterans Affairs

Office of Inspector General

# ALLEGATIONS OF MISMANAGEMENT IN THE BIOMEDICAL ENGINEERING SECTION AT THE EAST CAMPUS, CENTRAL ALABAMA VETERANS HEALTH CARE SYSTEM

Report No. 01-02655-38

December 28, 2001

**VA Office of Inspector General**
**Washington, DC 20420**

**DEPARTMENT OF VETERANS AFFAIRS**
**Office of Inspector General**
**Washington DC 20420**

# Memorandum to the Director (619/00)

## Allegations of Mismanagement in the Biomedical Engineering Section at the East Campus, Central Alabama Veterans Health Care System

**1. Introduction.** The Office of Inspector General (OIG) conducted an evaluation of the management and supervision within the Biomedical Engineering (BME) Section at the East Campus of VA's Central Alabama Veterans Health Care System (CAVHCS) to determine the validity of allegations that the Chief, BME Section:

- Disregarded VA policy and procedures by using a locally developed system to maintain parts inventory, instead of using VA's Generic Inventory Package (GIP).
- Used overtime (OT) to make unnecessary changes to the equipment management system.
- Improperly denied employees access to computer systems, resulting in inefficiency and waste.
- Improperly transferred responsibility for storing and maintaining "hospital gases" from the BME Section to the Air Conditioning and Refrigeration Shop.
- Endangered patient safety through unnecessary delays in equipment repairs and transferring perfectly good equipment to the West Campus in Montgomery, while leaving faulty equipment at the East Campus in Tuskegee.
- Violated environmental safety standards by authorizing the reuse of a refrigerator previously used to store specimens for storing food.

**2. Summary of Results.** We substantiated the allegation that the Chief, BME Section used a locally developed system to maintain parts inventory at the West Campus, instead of using VA's Generic Inventory Package (GIP). The remaining allegations were not substantiated; however, several areas in the BME Section need management attention.

We made recommendations that the Director: i) ensure that Engineering Service and Acquisition & Materiel Management Service (A&MMS) complete implementation of GIP for managing the BME Section inventories at both campuses; ii) identify root causes for the BME Section's inability to accomplish assigned Preventive Maintenance Inspections (PMI) and take corrective action; iii) ensure that the refrigerator located in the BME Section at the East Campus is removed and decontaminated; and iv) ensure that VA policies and procedures regarding documenting requests for turn-ins and/or transfers of equipment are followed.

The Director concurred with the findings and recommendations in the report and provided acceptable action plans. The Director's comments are presented in their entirety in Appendix I. We consider the issues discussed in the report to be resolved, based on actions taken or planned. However, we may follow up on planned actions until they are completed.

## 3. Details of Evaluation.

**Allegation 1 – The Chief, BME Section disregarded VA policy and procedures by using a locally developed system to maintain parts inventory, instead of using VA's Generic Inventory Package (GIP).**

**The allegation was substantiated.** Although the Chief, BME Section was using GIP at the West Campus to maintain some equipment parts, he was using a locally developed system to maintain the remaining parts inventory at the West Campus. There was no inventory management system in place at the East Campus. However, the Chief was in the process of implementing the locally developed system partially in use at the West Campus. VA policy mandates the use of GIP or its successor system to manage all inventories at VA medical centers. While the local system is preferable to no system at all, it is basically a manual system that lacked the sophistication of GIP. For example, the program did not provide for establishing normal and emergency stock levels, or standard and optional reorder point levels. Also, the program did not have the capability to automatically generate a list of items that need to be ordered, interface with bar code technology, or generate reports related to the history, usage, and status of stocked items. Consequently, CAVHCS facilities did not have the capability to eliminate or identify excess supply inventories.

**Recommendation 1** – We recommended that the Director ensure that Engineering Service and A&MMS complete implementation of the GIP for purposes of managing BME Section inventories at both campuses.

**Director's Comments**

The Director concurred with the recommendation and stated that all biomedical stock items are currently being added to the GIP for inventory management purposes.

**Office of Inspector General Comments**

The Director's actions are responsive to the recommendation.

**Allegation 2 – The Chief, BME Section used OT to make unnecessary changes to the equipment management system.**

**The allegation was not substantiated.** According to management, the work that the Chief, BME Section was doing was necessary to meet standards for certification by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The facility had not passed the previous JCAHO inspection in October 2000 and was given until July 2001 to take corrective actions. In order to pass re-inspection, Engineering Service was required to show that scheduled PMIs had been accomplished on at least 95 percent of the East Campus' medical equipment. A total of 497 hours of OT, valued at $14,114, was charged to the BME Section in fiscal year (FY) 2001 for this purpose. The Chief, BME Section worked a total of 382 (77 percent) of these hours and was paid $10,736.

According to the Chief, Engineering Service, this level of OT by the Chief, BME Section was needed because they lacked confidence that the staff would accomplish necessary work in the allotted timeframe. Our review of BME work measurement records for the second and third quarters of FY 2001 showed that two of the three technicians only accounted for about 40 percent of their time. Although we did not test the accuracy of the work measurement system, this indicates that either staff were not fully productive, or the work measurement system did not accurately account for work performed.

Management needs to address the causes for the BME Section not being able to accomplish its assigned PMIs, ensure that assigned staff are fully productive, and ensure that the work measurement system accurately reflects work performed.

**Recommendation 2** – We recommended that the Director identify the root causes for the BME Section's inability to accomplish assigned PMIs and take corrective action.

**Director's Comments**

The Director concurred with the recommendation and stated that some actions to correct the deficiencies have been accomplished, while other actions are ongoing.

**Office of Inspector General Comments**

The Director's actions are responsive to the recommendation. The Director indicated that the low workload statistics for some BME technicians at the East Campus occurred because those employees did not document and account for their hours worked on PMI work orders. While this may have been a factor, the Chief, BME Section told us that 60 percent of his OT hours were devoted to locating equipment for PMI purposes. The Chief, BME Section and the Chief, Engineering Service, told us these circumstances existed because they could not rely on the BME Section technicians to locate equipment and perform the PMIs. Documentation on file supported the premise that

some technicians were not fully productive. Although the BME Section is currently meeting established PMI completion goals without the use of OT, management needs to ensure that actions taken are sustained and that methods other than OT are used to perform routine tasks such as locating equipment.

**Allegation 3 – The Chief, BME Section improperly denied technicians access to computer systems, resulting in inefficiency and waste. The Chief made changes to the computer system, wherein employees were denied access to the computer and were unable to place orders, or log work they had done or needed to do.**

**The allegation was not substantiated.** BME Section technicians had full access to computer systems necessary to perform their job responsibilities. Primary access included the BME Technicians menu within the Engineering Module[1] of the Veterans Health Information Systems and Technology Architectural (VISTA) system. BME Section technicians are responsible for inspecting, repairing, and performing PMI on complex medical, electronic, and computer equipment and systems. The Engineering Module is a VA-mandated database that enables BME Section technicians to initiate, edit, track, complete, and review electronic work orders, display equipment records, display equipment PMI schedules, print bar code labels for equipment management, and perform other job-related functions. BME Section technicians also had access to Microsoft Windows, Outlook Express, and Internet Explorer, as well as other programs and applications provided in a standard package for most VA employees.

Some BME Section technicians told us that although they have sufficient access to VA computer systems to perform their responsibilities, they were concerned because their access to File Man and their ability to access VA data processing systems from locations outside VA (remote access) had been terminated. The Chief, Engineering Service and the Chief, BME Section stated that the technicians' access to File Man was terminated because uncontrolled access to the application was unproductive and represented a security risk, and because extending remote access privileges to technicians was not in the best interests of the CAVHCS. Engineering Service managers stated that some technicians were spending time editing the AEMS/MERS database, rather than performing their responsibilities. Management also stated that File Man is a potentially dangerous application that allows the user to make global changes to the data in AEMS/MERS, as well as to the files that make up the database itself. Engineering Service and A&MMS share AEMS/MERS; consequently, File Man could be used to make changes that might affect the operations of both services. Engineering Service managers further stated that changes made by the technicians were personal and, therefore, counterproductive to efforts to create a management program that utilizes standardized equipment categories at both campuses.

[1] Also referred to as the Automated Engineering Management System/Medical Equipment Reporting System (AEMS/MERS).

Engineering Service management stated that remote access to VA systems from locations outside VA was terminated based on advice provided by Human Resources Service (HRS). According to HRS, authorization to work at home is implied when staff are granted remote access and VA could therefore, be required to compensate staff for overtime hours claimed.

Based on our review, we concluded that access to computer resources provided to BME Section technicians for job performance was adequate. Therefore, the allegation was not substantiated.

**Allegation 4 – The Chief, BME Section improperly transferred responsibility for storing and maintaining "hospital gases" from the BME Section to the Air Conditioning and Refrigeration Shop.**

**The allegation was not substantiated.** Procedures required for promoting safe handling of the "hospital gases" and functionality of the related equipment were appropriate. "Hospital gases" refer to the air, oxygen, and vacuum (AOV) supplied to patient rooms and other clinical locations. A contract vendor maintains the compressors, tanks, and lines used in the AOV system. However, the temperature in patient rooms and the inside/outside pressure in the system are monitored and periodically adjusted at the wall plate level by Air Conditioning and Refrigeration Shop staff. BME Section technicians previously performed the monitoring and system adjustments at the East Campus. However, when the two campuses merged, the prior Chief, Engineering Service shifted the responsibility to the Air Conditioning and Refrigeration Shop because that shop was responsible for the maintenance at the West Campus. Presently, Air Conditioning and Refrigeration Shop technicians monitor the AOV systems at both campuses. Maintenance procedures performed by Air Conditioning and Refrigeration Shop technicians include checking for leaks, replacing O-rings, and inspecting the tubes leading from the wall plates outward. Our review of the documentation of training provided to technicians in the Air Conditioning and Refrigeration Shop showed that they were trained to perform the procedures necessary to maintain the AOV system. Based on our review, we concluded that the allegation was not substantiated.

**Allegation 5 – The Chief, BME Section endangered patient safety through unnecessary delays in equipment repairs and transferring perfectly good equipment to the West Campus in Montgomery, while leaving faulty equipment at the East Campus in Tuskegee.**

**The allegation was not substantiated.** The BME Section did not maintain records of equipment repair times at either campus; therefore, we were unable to evaluate whether the time used to make repairs was reasonable. However, our review disclosed that during the past fiscal year, there were no patient incidents resulting from equipment failures at either campus of the CAVHCS. Intravenous fusion and feeding pumps may accompany patients during transfers between the East and West campuses, but we did not identify inappropriate transfers of equipment between the two campuses. Many of the equipment items used in direct patient care are listed on the Equipment Inventory Listing (EIL) of services other than the BME Section, and their location is under the control of those services. Our review of documentation related to equipment transfers

showed that only three pieces of equipment were transferred from the East Campus to the West Campus, and none were transferred from the West Campus to the East Campus. Interviews with 11 physicians and nurses on the wards at the East Campus disclosed that medical equipment malfunctions were infrequent; however, when equipment malfunctions did occur, BME Section technicians responded timely. The physicians and nurses stated that they were very pleased with the performance of the equipment maintained by the BME section. Based on our review, we concluded that the allegation was not substantiated.

**Allegation 6 – The Chief, BME Section violated environmental safety standards by authorizing the reuse of a refrigerator previously used to store specimens for storing food.**

**The allegation was not substantiated.** Our review disclosed there were two refrigerators in the BME Section; one each at the West and East campuses. The refrigerator at the West Campus was purchased for the BME Section in 1978 and had been located in the BME Section since that time. The refrigerator at the East Campus was a replacement for a refrigerator turned in as excess in 1998. According to the Chief, BME Section the replacement unit was transferred to the BME Section from the Supply, Processing, and Distribution Section (SPD). The purchase order for the replacement refrigerator indicated that it had been purchased in 1996 for the Pathology Section of Laboratory Service, although the purchase order did not document the purpose for which the refrigerator was to be used. There was no documentation transferring the replacement refrigerator to SPD from the Pathology Section, or to the BME Section from SPD. In addition, there was no documentation or authorization showing the transfer of the refrigerator from the EIL of the Pathology Section to the EILs for SPD or the BME Section. Neither the Chief, BME Section nor the Manager, Materiel Management Section, was aware of whether the replacement refrigerator was used by the Pathology Section to store specimens. In addition, the Chief, Pathology Section could not recall whether the Pathology Section had ever actually used the refrigerator.

The Safety Manager at the CAVHCS stated that she was unaware of any policies relating to the reuse of refrigerators. However, she stated that in her opinion, there was nothing wrong with reusing the refrigerator to store food for human consumption if it was sterilized before the fact. The Infectious Control Nurse agreed that the refrigerator could be reused to store food for human consumption if it was decontaminated. However, since there was no documentation of the transfer to SPD, there was no evidence that the refrigerator had been decontaminated.

**Recommendation 3** – We recommended that the Director ensure that:

a. The refrigerator located in the BME Section at the East Campus is removed and decontaminated.

b. VA policies and procedures regarding documenting requests for turn-ins and /or transfers of equipment are followed.

**Director's Comments**

The Director concurred with the recommendation and stated that the refrigerator was removed and decontaminated, and that staff are constantly reminded of the procedures related to EIL duties and responsibilities.

**Office of Inspector General Comments**

The Director's actions are responsive to the recommendation.

For the Assistant Inspector General for Auditing

*(original signed by:)*
JOHN S. BILOBRAN
Deputy Assistant Inspector General
for Auditing

APPENDICES

## COMMENTS OF THE DIRECTOR

**Department of Veterans Affairs** **Memorandum**

**Date:** December 11, 2001

**From:** Health Care System Director (619/00)

**Subj:** Draft Report: Allegations of Mismanagement in the Biomedical Engineering Section at the East Campus, Central Alabama Veterans Health Care System (Project No. 2001-02655-R3-0155)

**To:** Assistant Inspector General for Auditing (52)

1. The Office of Inspector General (OIG) conducted an evaluation of the management and supervision of the Biomedical Engineering (BME) Section at the East Campus of Central Alabama Veterans Health Care System (CAVHCS). The draft OIG report has been reviewed with the following CAVHCS Director reply to the report:

a. **Recommendation:** Recommend that the Director ensure that the Engineering and A&MMS complete implementation of the GIP for purposes of managing BME inventories at both campuses.

**Director's Response:** Concur
All BioMed Stock items were moved from the BioMed Section to Logistics Management, Material Distribution Center, September 27, 2001. All items are currently being added to the GIP for inventory management purposes. Target completion date is March 2002.

b. **Recommendation:** Recommend that the Director identify the root causes for the BME Section's inability to accomplish assigned PMIs and take corrective action.

**Director's Response:** Concur
Per Engineering Service Memorandum No. 01-15, each equipment or system that is a critical component part requiring preventive maintenance of building service equipment and utility systems shall be recorded in the Veterans Information Systems Technology Architecture (VISTA). This is necessary to ensure that all equipment and systems requiring preventive maintenance is entered in the equipment inventory file and scheduled for preventive maintenance inspection at a required frequency. Since the Joint Commission inspection was scheduled for July 2001, it was imperative that this critical component be completed and implemented in order to meet the 95% or better JCAHO compliance factor for preventive maintenance inventory and inspection.

The Biomedical Engineer was assigned the task of meeting this initiative for the Equipment and Utilities Management Programs. As a result of his commitment and leadership, he not only completed his normal duty assignments, but worked overtime hours to standardize preventive maintenance schedules, updated and corrected the equipment database, and ensured all JCAHO compliance factors were met. Since June 2001, except for emergency callbacks, no overtime has been used in the BioMed Section.

Prior to March 2001, CAVHCS recognized deficiencies in their Equipment and Utility Management Programs.

(1) The following root causes were identified:

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Assistant Inspector General for Auditing (52)

(a) Equipment database was not separated by campuses, was not current, and was not accurate at the East Campus.

(b) Preventive maintenance schedules were not standardized and consistent between campuses.

(c) Space File updates were not current or accurate at the East Campus.

(d) Departments transferring equipment between campuses were not following Logistics policies on moving equipment prior to the memorandum dated September 25, 2000.

(e) BioMed employees were not documenting and accounting for their total man-hour usage on PMI work orders.

(2) The following corrective actions were accomplished as appropriate:

(a) The Biomedical Section and Logistics Service are performing inventory of equipment. (Ongoing).

(b) The standardization of Preventive Maintenance schedules was completed on February 28, 2001.

(c) The Engineering Manager has assigned a Project Engineer to oversee the space file update. (On-going).

(d) Memorandum dated September 25, 2000, Equipment Inventory Lists (EIL) Duties and Responsibilities was signed by the Director, distributed and addressed in the Environment of Care Committee.

(e) One of the performance measures now being tracked for compliance in Engineering Service is employee workload and man-hour accountability. This includes accounting for total man-hours used for each assigned work order, preventive maintenance or other. Since this information has been tracked (3 quarters), the documented man-hour accountability in BioMed continues to improve. Since July 2001, the BioMed Section continues to meet the 95% and above preventive maintenance inventory completion with no overtime usage in this area.

c. **Recommendation:** Recommend that the Director ensure that the refrigerator located in the BME Section at the East Campus be removed and decontaminated.

**Director's Response:** Concur
The refrigerator was removed, decontaminated, and cleaned on November 27, 2001.

d. **Recommendation:** Recommend that the Director ensure that VA policies and procedures regarding documenting requests for turn-in, and/or transfer of equipment is followed.

**Director's Response:** Concur
VA policies and procedures regarding documentation requests for turn-in and/or transfer of equipment are currently being followed. The Logistics Manager or a representative is a member of the moves committee for the purpose of identifying CAVHCS' staff relocation. Staffs are constantly reminded of the procedures outlined in Memorandum dated September 25, 2000, Equipment Inventory Lists (EIL) Duties and Responsibilities.

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2. If you have any questions, or if we can be of further assistance, please contact Joel Tuck, Quality Manager, at 334-272-4670, extension 4560.

//s//
Linda F. Watson

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