

September 19, 2013

Dr. Daniel,

We have completed an audit of the William B. Hanson Center for Space Sciences as part of our fiscal year 2013 Audit Plan, and the report is attached for your review. The audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*. The objectives of the audit were to provide assurance to UT Dallas management that an adequate system of internal controls is in place and to provide reasonable assurance of sound management.

Overall, we found that the center appears to have an adequate system of internal controls in place. The attached report details recommendations that will further enhance internal controls and compliance with UT Dallas controls over information security and disaster recovery.

Management has reviewed the recommendations and has provided responses and anticipated implementation dates. Though management is responsible for implementing the course of action outlined in the response, we will follow up on the status of implementation subsequent to the anticipated implementation dates. We appreciate the courtesies and considerations extended to us during our engagement. Please let me know if you have any questions or comments regarding this audit.



Toni Stephens
Executive Director of Audit and Compliance

UT Dallas Responsible Parties:

Dr. Bruce Novak, Dean of the School of Natural Sciences and Mathematics
Dr. Roderick Heelis, Center Director

Members of the UT Dallas Audit and Compliance Committee:

Dr. Hobson Wildenthal, Executive Vice President and Provost
Dr. Calvin Jamison, Vice President for Administration
Mr. Terry Pankratz, Vice President for Budget and Finance
Dr. Andrew Blanchard, Vice President for Information Resources and Chief Information Officer
Dr. Bruce Gnade, Vice President for Research
Dr. Darrelene Rachavong, Vice President for Student Affairs
Mr. Curt Eley, Vice Provost for Enrollment Management
Dr. James Marquart, Vice Provost
Dr. Sue Taylor, Acting Chief Information Security Officer
Mr. Timothy Shaw, University Attorney
Ms. Lisa Choate, Partner, Ultimate Health Resources

The University of Texas System:

Dr. Pedro Reyes, Executive Vice Chancellor for Academic Affairs
Alan Marks, Attorney
Mr. J. Michael Peppers, CIA, CRMA, CPA, FACHE, Chief Audit Executive
Ms. Moshmee Kalamkar, CPA, CIA, Audit Manager

State of Texas Agencies:

Legislative Budget Board
Governor's Office
State Auditor's Office
Sunset Advisory Commission

Executive Summary

William B. Hanson Center for Space Sciences, Report No. 1402

<p>Audit Objective and Scope: The objectives of this audit were to provide assurance to UT Dallas management that an adequate system of internal controls is in place and to provide reasonable assurance of sound management. The scope of this audit was fiscal year 2012 to date.</p>	
<p>Audit Results: The audit resulted in no recommendations considered significant to university operations. However, we offer the following recommendations to enhance compliance and internal controls over the William B. Hanson Center for Space Sciences.</p>	
<i>Recommendation</i>	<i>Estimated Implementation Date</i>
(1) Enhance Physical Security Controls Regarding Laboratories	January 30, 2014
(2) Improve Information Security Controls Related to Back-up, Storage, and Encryption of Data	December 30, 2013
(3) Create Disaster Recovery Plan	January 30, 2014
<p>Conclusion: Overall, the William B. Hanson Center for Space Sciences appears to have an adequate system of internal controls in place. Implementation of the recommendations outlined in this report will further enhance internal controls and compliance with UT Dallas policies, procedures, and best practices.</p>	
<p>Responsible Vice President: Dr. Hobson Wildenthal, Executive Vice President and Provost</p>	<p>Responsible Party: Dr. Roderick Heelis, Center Director; Dr. Bruce Novak, Dean of the School of Natural Sciences and Mathematics</p>
<p>Staff Assigned to Audit: Seo Choi, Staff Auditor, In-Charge Van Tran, Student Intern from the Internal Auditing Education Partnership Program</p>	

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Background

The William B. Hanson Center for Space Sciences (Center) was founded in 1961 as part of the Southwest Center for Advanced Studies and became part of the University of Texas at Dallas in 1969. All the faculty members and research scientists in the Center are acting principal investigators with external support from the National Science Foundation, NASA, and the United State Department of Defense. Additionally, Center faculty and staff regularly teach basic physics courses and courses in space sciences.

The Center is managed by a Director who reports to the Dean of the School of Natural Science and Mathematics. The Center has 35 active cost centers comprising both institutional and contract and grant funds. As of July 2013, fiscal year 2013 expenditures totaled \$3,581,379.96.

The Center has 12 full time employees, three part time employees, five faculty researchers, two research assistants, and seven teaching assistants. Their mission statement is:

The Center will conduct a vigorous research program in solar system space plasma physics. This activity will involve the design, construction, and flight of space plasma sensors for spacecraft and rockets, the development of computer software and analysis tools for data interpretation, and the advancement of numerical models of the solar terrestrial environment. Our goal is to advance understanding of the evolution of solar system bodies and their interaction with the sun.

Audit Objective

The objective of this audit was to provide assurance to UT Dallas management that an adequate system of internal controls is in place in the Center and to provide reasonable assurance of sound management.

Scope and Methodology

The scope of this audit was fiscal year 2012 to date, and our fieldwork concluded on May 11, 2013. To satisfy our objectives, we performed the following:

- Gained an understanding of operations through a departmental self-assessment, anonymous survey, interviews, and review of requested information, policies and procedures, and other documents relevant to internal controls within the Center.

- Conducted a risk assessment of departmental operations and focused testing on key risk areas within the Center. Based on the risk assessment, we tested selected items from the following areas:
 - Account Reconciliations
 - Expenses
 - Purchasing Cards
 - Assets

Where applicable, we conducted our examination in accordance with the guidelines set forth in The Institute of Internal Auditor's *International Standards for the Professional Practice of Internal Auditing*. The *Standards* set criteria for internal audit departments in the areas of independence, professional proficiency, scope and performance or audit work, and management of the internal auditing department.

Audit Results and Management's Responses

Overall, the William B. Hanson Center for Space Sciences appears to have an adequate system of internal controls in place. Our audit work indicated that the following controls currently exist:

- The Center has a detailed policies and procedures manual for the department, along with an approval process for information that goes into the manual.
- The anonymous survey handed out to employees of the Center indicates high morale amongst the employees
- The Center is currently working with Facilities Management to resolve issues regarding temperature and humidity in the laboratories. If the issue remains unresolved for a period of time, we encourage the Center to elevate the issue.

A significant recommendation is defined as one that may be material to operations, financial reporting, or legal compliance. This would include an internal control weakness that does not reduce the risk of irregularities, illegal acts, errors, inefficiencies, waste, ineffectiveness, or conflicts of interest to a reasonable low level. We have **no significant recommendations** resulting from this audit; however, the following recommendations will help enhance existing internal controls and compliance with applicable UT Dallas policies, procedures, and best practices.

Audit Recommendations

(1) Enhance Physical Controls Regarding Laboratories

The Center does not currently have a process in place to monitor who has authorization to enter the secure laboratory.

Several contracts require the Center to maintain hardware in a secured area. Additionally, the Center is required to not allow unescorted access to the lab to non-U.S. citizens.

Management's attempts to gain door access reports had been unsuccessful in the past. However, without knowledge of who has access to enter the secure laboratory, unauthorized personnel could enter restricted laboratories, causing potential noncompliance with contracts.

Recommendation: The Center should contact the Software Systems Specialist in the UT Dallas Police Department and work with him to receive periodic door access reports detailing who has door access to the secure laboratory, as well as displaying who has accessed the laboratory since the last report. Additionally, the Center should work with UT Dallas Police Department to obtain notifications when new individuals are granted door access to these secure laboratories. The Center should create a monitoring procedure to regularly review these reports to ensure unauthorized individuals do not have access to the secure laboratory.

Management's Response: *The Center will contact the UT Dallas Police Department to determine the most efficient procedure for transferring information concerning building access. We will implement a procedure, to be executed on a monthly or quarterly basis, and establish an electronic file documenting the frequency of access for each identified staff member.*

Estimated Date of Implementation: *January 30, 2014*

Person Responsible for Implementation: *Keith Swaim, Technical Staff Associate*

(2) **Improve Information Security Controls Related to Back-up, Storage, and Encryption of Data**

The Center runs several servers. One is an administrative server containing business activity information such as budgets, proposal information, personnel records, and accounting records. Two of the servers are used to provide data access to the world for two of their satellite projects. The other servers are used to provide additional storage space and/or processing capacity for the satellite data processing. The back-up for these servers are stored on external hard drives or 8mm tapes, which are stored in the same room as the servers. The backup for these servers is not encrypted. However, only the administrative server contains sensitive information. Additionally, two of the servers tested appear to have FTP and Telnet services enabled on the internal UT Dallas network.

The Center worked with Information Resources (IR) to have the servers managed centrally by IR. However, after much effort, it was determined by IR that it would be too difficult and costly to achieve this. Additionally, the backups for these servers are stored in the Center because no other alternative was found. However, in the event of a disaster, the backup data could be destroyed, along with the source data. Additionally, with the use of FTP and Telnet, information passes in the clear unencrypted, leaving sensitive information vulnerable.

Recommendation: The Center should consider using a UT Dallas network for the administrative server. If the Center chooses to keep using the current server as the administrative server, they should encrypt the backup.

Additionally, the Center should work with Information Resources to determine the best location to store the backup for the servers, preferably in a separate location than the servers. FTP, file transfer protocol, is “an industry standard method of data exchange between computers.”¹ In contrast, SFTP, secure file transfer protocol, is a file transfer protocol sent through an encrypted network. The Center should confirm whether the servers have FTP and Telnet services enabled. If they are enabled, the department should consider alternatives, such as SFTP. If the department determines it is necessary to keep the FTP and Telnet services enabled, the department should document the business purpose for this decision

Management’s Response: *Steps will be taken to migrate the administrative files and functions to the UT Dallas network administrative server. Center data servers will be backed-up using media that can be located in other offices at WSTC. The status of all file transfer protocols associated with Center servers will be documented and any low level protocols will be disabled unless documented reasons for their preservation are in place. These actions will be reviewed by Information Resources for compliance.*

Estimated Date of Implementation: *December 30, 2013*

Person Responsible for Implementation: *Robert Power, Project Supervisor*

(3) **Create Disaster Recovery Plan**

The Center currently does not have a documented disaster recovery plan. Disaster recovery planning is especially important since the Center has government contracts and grants that may require this.

Without a disaster recovery plan, business processes could be stalled in the event of a disaster, which could result in the inability to meet contractual agreements or deadlines.

¹ http://www.sans.org/reading_room/whitepapers/protocols/securing-ftp-authentication_374

Recommendation: The Center should create a business continuity plan using the online UT Dallas Business Continuity Planning Tool, as well as working with the Office of Business Services to ensure operations can run as smoothly as possible in the event of a disaster.

Management's Response: *The Center will utilize all available resources to create a business continuity plan. The plan will be created as an electronic document to be reviewed and updated annually.*

Estimated Date of Implementation: *January 30, 2014*

Person Responsible for Implementation: *Brenda Walston, Grants and Contracts Specialist II*

Conclusion

Based on the audit work performed, we conclude that the William B. Hanson Center for Space Sciences has an adequate system of internal controls in place. Implementation of the recommendations outlined in this report will help further enhance internal controls and compliance with UT Dallas policies, procedures, and best practices.

We appreciate the courtesy and cooperation received from the management and staff of the William B. Hanson Center for Space Sciences during this audit.