

Constructing an Audit Program from the Association of College and University  
Auditor's (ACUA's) Risk Dictionary for Institutionally-Managed Construction  
Projects at The University of Texas at San Antonio

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One could argue that creating an audit program is a lot like designing the floor plan for a new dorm on campus or a new top-of-the-line research facility. Stay with me here! Architects for a new construction project probably would first look at floor plans of existing dorms or campus research facilities. Then the architect would look to other institutions with fantastic dorms or modern research facilities for ideas and inspiration. Who knows? Perhaps architects have a massive database of successful floor plans managed by leaders in their industry that they can turn to for inspiration and motivation.

The massive database of successful floor plans for architects is synonymous with the ACUA Risk Dictionary.

The ACUA Risk Dictionary is a database of over 900 risks and 2100 associated controls which apply to higher education institutions. It was created with input from 12 ACUA member institutions and is divided into 15 Risk Areas including Plant Operations and Maintenance and others such as Information Technology and Schools of Medicine. Each Risk Area is divided into Area Names such as Building Maintenance and Custodial Services that list specific risks. As we will explain, this massive database is searchable and filterable so that a user can address specific project areas.

The University of Texas (UT) System includes nine academic and six health institutions. One of the many benefits of being a part of the largest system in the State of Texas is oversight and guidance of common practices across the institutions. One such example is the UT System Office of Facilities Planning and Construction (OFPC). OFPC is responsible for managing or providing oversight for all major capital projects for the 15 component institutions. Major capital projects in the UT System are those costing in excess of \$4 million for both new construction and renovation projects. Construction projects under this threshold are managed by each institution (“institutionally managed”).

The University of Texas at San Antonio experienced significant growth in enrollment and research over the last 10 years resulting in significant construction activity. Consequently, during our annual risk assessment and audit planning process, the risk associated with construction projects ranked high and was included in our audit plan. Since OFPC manages larger construction projects, our focus as institutional internal auditors is on institutionally managed construction projects.

Now faced with auditing an area without in-depth experience on the topic, we turned to the ACUA Risk Dictionary. We found it to be an excellent way to start learning about risks and controls in construction auditing. The first thing we did was to log on to ACUA’s Risk Dictionary, which is free to all members. The ACUA Risk Dictionary is behind the ACUA website’s members-only section, so we used our institution’s login and password information to get to the ACUA Risk Dictionary section (see Exhibit 1), and then the standard shared logon for the ACUA Risk Dictionary itself as shared on that page. We also made use of the animated tutorials available on the same page as the ACUA Risk Dictionary.

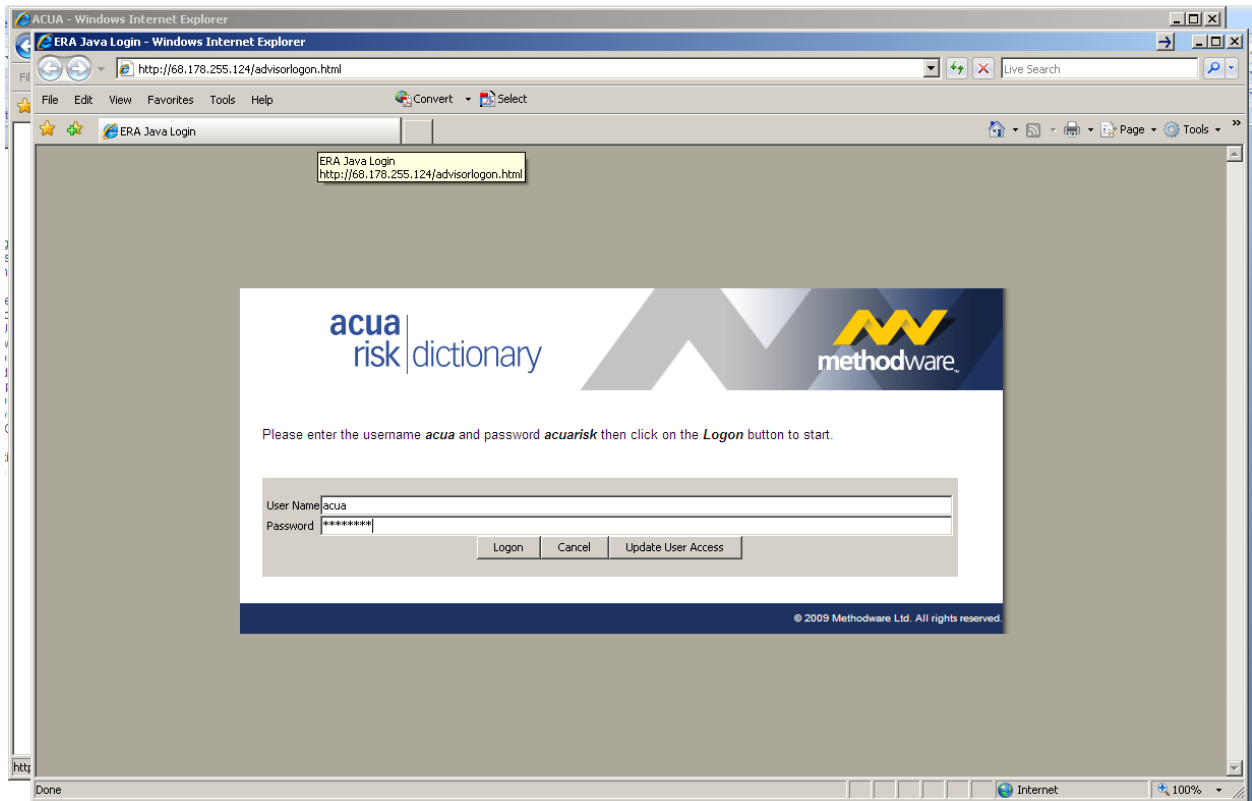


Exhibit 1 – ACUA Risk Dictionary Logon Screen

Once inside the software, we reviewed the risk areas and decided to restrict our search to Plant Operations and Maintenance. To do so, we selected the “load stored filter” button at the top and highlighted Plant Operations and Maintenance (see Exhibit 2). Highlighting Plant Operations and Maintenance under the list at the left will bring you to the same screen.

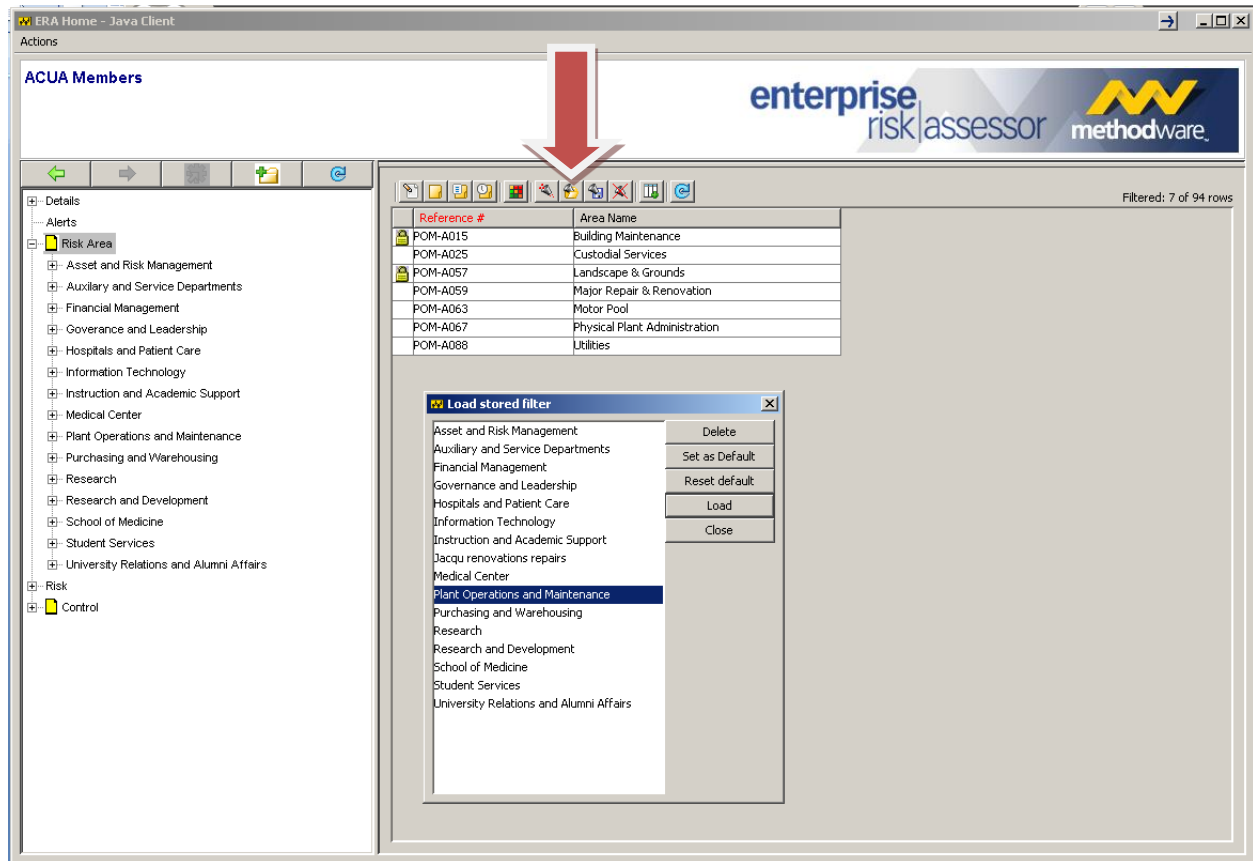


Exhibit 2 – ACUA Risk Dictionary Risk Area Filter

This filter allowed us to see that there were seven risk areas within the major risk category “Plant Operations and Maintenance:”

1. Building Maintenance
2. Custodial Services
3. Landscape and Grounds
4. Major Repairs and Maintenance
5. Motor Pool
6. Physical Plant Administration
7. Utilities

The software provides the option of viewing the risk areas (such as Major Repairs and Maintenance) within a major risk category (such as Plant Operations and Maintenance) on the left side of the screen and the ability to drill down to see specific controls for that area. This is a good option to quickly see the risks and related controls and to focus on most relevant risks for your audit. The software allows you to run reports on specific areas such as Major Repairs and Maintenance. However, I chose to run a report and export all the risks and controls under the risk area “Plant Operations and Maintenance” into Microsoft Excel and then run filters on my computer. The ability to further filter within the ACUA Risk Dictionary also exists.

In order to export the information into Microsoft Excel, we selected the “Report Selection” button and were able to select from a list of canned reports. We selected the “Areas Risk and Controls” report with no reference numbers, and changed the output type to CSV; choosing RTF produces the report in Word (see Exhibit 3).

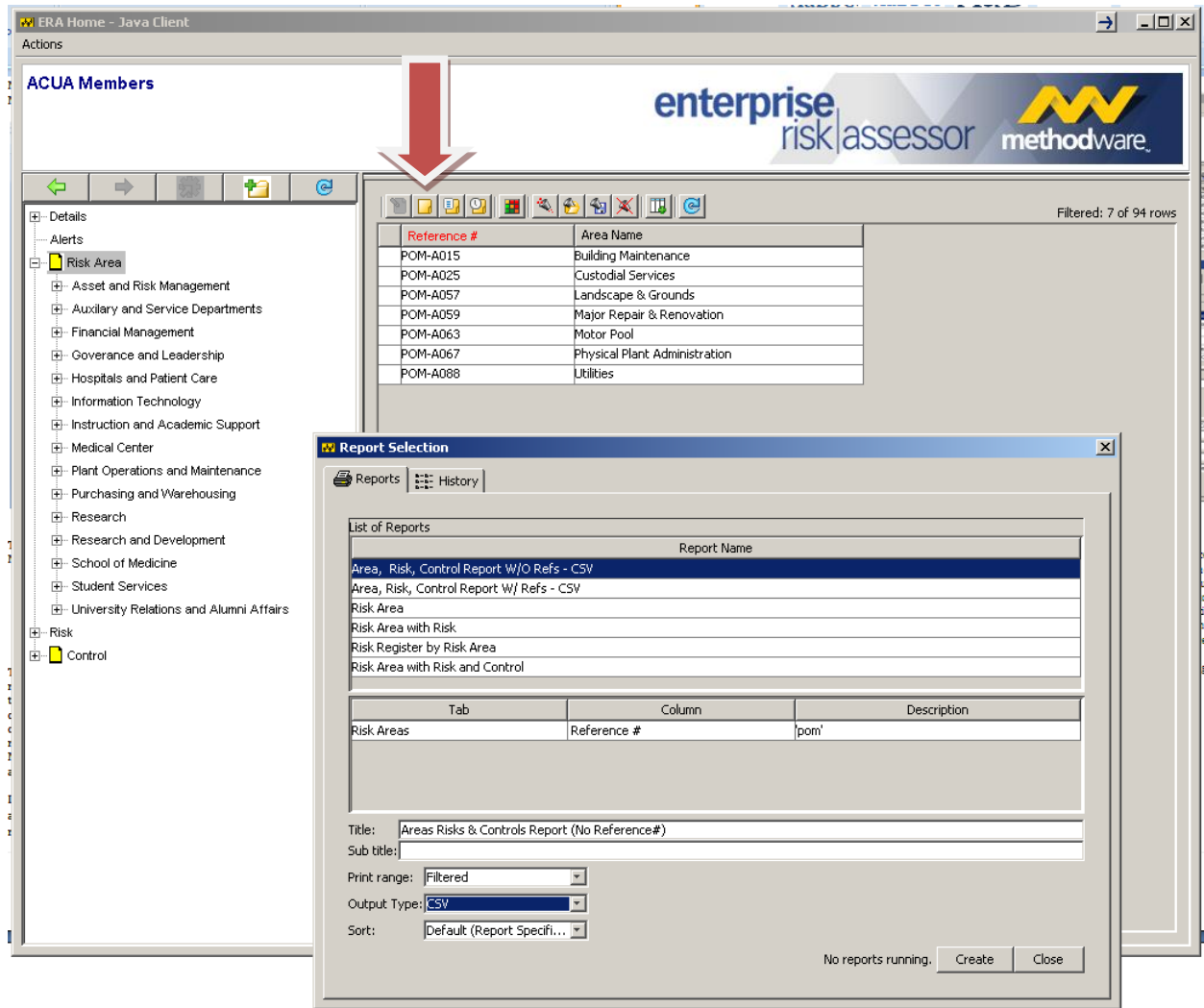


Exhibit 3 – ACUA Risk Dictionary Report Selection

After the report was exported into Microsoft Excel, we evaluated all the risks and controls under the risk category “Plant Operations and Maintenance” and determined the risk area “Major Repairs and Renovations” contained risks most relevant to our audit project (see Exhibit 4). Those risks were:

1. Substantial heating or cooling loss due to infrastructure failure
2. Failure to provide services at a competitive cost
3. Failure to perform scheduled maintenance
4. Failure to perform deferred maintenance on facilities
5. Failure to oversee in-house construction projects
6. Failure of structural integrity of buildings
7. Construction accidents

	A	B	C	D
1	Major Category	Area	Risk	Control
103	Plant Operations and Maintenance	Major Repair & Renovation	Substantial heating or cooling loss due to infrastructure failure	Adequate budgeting of renovations
104	Plant Operations and Maintenance	Major Repair & Renovation	Substantial heating or cooling loss due to infrastructure failure	Periodic assessment of renovations
105	Plant Operations and Maintenance	Major Repair & Renovation	Substantial heating or cooling loss due to infrastructure failure	Inspections
106	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Adequate internal cost records
107	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Market surveys
108	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Cost analysis
109	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Appropriate cost accounting and control processes. (standard costs)
110	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Evaluating cost controls
111	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Market analysis
112	Plant Operations and Maintenance	Major Repair & Renovation	Failure to provide services at a competitive cost	Evaluate bidding and receive quotes
113	Plant Operations and Maintenance	Major Repair & Renovation	Failure to perform scheduled maintenance	Evaluation of assignments
114	Plant Operations and Maintenance	Major Repair & Renovation	Failure to perform scheduled maintenance	Resource analysis
115	Plant Operations and Maintenance	Major Repair & Renovation	Failure to perform deferred maintenance on facilities	Regular inspections
116	Plant Operations and Maintenance	Major Repair & Renovation	Failure to perform deferred maintenance on facilities	Maintenance program
117	Plant Operations and Maintenance	Major Repair & Renovation	Failure to perform deferred maintenance on facilities	Documented policies & procedures
118	Plant Operations and Maintenance	Major Repair & Renovation	Failure to oversee in-house construction projects	Provide proper education and training for all employees involved in the purchasing process.
119	Plant Operations and Maintenance	Major Repair & Renovation	Failure to oversee in-house construction projects	Incorporate user feedback and user approval
120	Plant Operations and Maintenance	Major Repair & Renovation	Failure to oversee in-house construction projects	Schedule oversight
121	Plant Operations and Maintenance	Major Repair & Renovation	Failure to oversee in-house construction projects	Accurate project accounting
122	Plant Operations and Maintenance	Major Repair & Renovation	Failure of structural integrity of buildings	Building inspections
123	Plant Operations and Maintenance	Major Repair & Renovation	Failure of structural integrity of buildings	Architectural review and inspections
124	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Certifications if applicable and training
125	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Protective gear
126	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Insurance
127	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Signage
128	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Supervision
129	Plant Operations and Maintenance	Major Repair & Renovation	Construction accidents	Training and Awareness Program

**Exhibit 4 – Major Repair & Maintenance Risks & Controls**

Now that the seven risks and their related controls from the ACUA Risk Dictionary had been identified, the next step was to interview the UTSA’s Office of Engineering and Project Management. This UTSA office handles institutionally managed construction projects. We reviewed their website and applicable University and System policies and procedures. Our project team then met and discussed the risks and controls from the ACUA Risk Dictionary and the other information gathered during planning. We formulated a list of topics to discuss with Engineering and Project Management.

At the beginning of that interview, we informed management that the purpose of the interview was to learn about their processes and discuss what they believe are their key risks. It was important to set the stage in this manner in order to ease any fears they may have had from past experiences with external audits by informing them we did not have a set agenda at this stage of the audit. Each interview lasted from two to four hours which resulted in an open discussion and information sharing. As the interviews progressed, the list of risk areas was expanded from the original seven from the ACUA Risk Dictionary to the following 15 risk areas. Some ACUA Risk Dictionary risks were combined or reworded to fit our institution. The selected 15 risk areas are listed below:

1. General Responsibilities
2. Project Management/Workload
3. Involvement with UT System Capital Projects
4. Deferred Maintenance
5. Bidding
6. Conflicts of Interest
7. Insurance and Bonding

8. Project Coordinator skill sets
9. Workplace Safety
10. Project Completion
11. Non-performing suppliers and vendors
12. Total project cost reconciliations
13. Change Orders
14. Job Order Contractor
15. Code/TCEQ Compliance

Because of the ACUA Risk Dictionary strength, we felt it was important to document for our workpapers that we addressed each Risk Area (see Exhibit 5):

Risks and Controls - Interviews and ACUA - Microsoft Excel		
A	B	C
1	<b>ACUA Risk Area: Major Repairs and Renovation</b>	<b>Rationale for including or excluding in Facilities Staff Risk Assessment</b>
2	1 Substantial heating or cooling loss due to infrastructure failure	Included in "Non-performing suppliers and vendors" and in ""Non compliance with code" risks
3	2 Failure to provide services at a competitive cost	Included in "Bidding of projects not occurring" risk
4	3 Failure to perform scheduled maintenance	Included indirectly since institutionally managed projects includes scheduled maintenance.
5	4 Failure to perform deferred maintenance on facilities	Included indirectly since institutionally managed projects includes scheduled maintenance.
6	5 Failure to oversee in-house construction projects	Excluded from a specific risk but this is the overall theme of this audit
7	6 Failure of structural integrity of buildings	Included in "Non-performing suppliers and vendors" and in ""Non compliance with code" risks
8	7 Construction accidents	Included in "Work site if not safe" risk

Exhibit 5 – Analysis of ACUA Risk Areas

At this point, it was time to document the controls identified through the interviews. We reworded or replaced the controls from ACUA’s Risk Dictionary with UTSA specific controls. The result was a complete list of risk areas and their specific controls (see Exhibit 6). From this information, we felt we were close to knowing where we should spend our audit time, but we wanted more buy-in and feedback from Engineering and Project Management staff.

	A	B	C	D	E
1		Risk	Control 1	Control 2	Control 3
2	1	Bidding of projects not occurring	Established parameters regulate when bidding must occur	Committee of 3-4 members select contractors for each project	Approval by AVP-Facilities required if bidding does not occur for projects costs over established amount
3	2	Change orders not managed	Change orders are treated as a contract - all levels of authority are completed	Tracked Internally in a Microsoft Access Database	All change orders must be supported in writing with the reason the change order is necessary
4	3	Conflicts of interest of UTSA facilities staff not managed	Project coordinators sign non-disclosure statements for each project.	Annually all UTSA staff must sign COI forms as part of the annual Compliance Acknowledgements	VP-Business Affairs requested facilities upper management complete the Financial Disclosure & Conflict of Interest
5	4	Conflicts of interest of contractors (job order, general, and subs) not managed	Contractors must sign Conflict of Interest (COI) forms	Annually all UTSA staff must sign COI forms as part of the annual Compliance Acknowledgements	
6	5	Insurance inadequate or expires	Umbrella Insurance Policy with Alpha	Bond and Insurance section included in Procurement Checklist for every contract signed	Bond and Insurance section included in Procurement Checklist for every change order signed
7	6	Bonding inadequate or expires	Umbrella Bond Policy with Alpha	Bond and Insurance section included in Procurement Checklist for every contract signed	Bond and Insurance section included in Procurement Checklist for every change order signed
8	7	Workload of Project Coordinators is not manageable	Assistant Director positions created	Cost estimator position being considered	
9	8	Inaccurate project estimates due to no Professional Cost Estimators on staff	Current staff have years of experience on project cost estimations	Staff utilize Means Cost Estimating Book as a resource	
10	9	Skill set of project coordinators is not adequate for job requirements	Facilities staff and Health and Safety staff have professional licensees	Project coordinators attending specialized training classes and conferences	Architects or Engineers are hired as necessary
11	10	Work site is not safe	For capital projects, the contractor is required to have a training session with anyone entering the building (employees of 1) Contractor, 2) System Facilities, and 3) UTSA).	Experience, certifications, and safety training of project coordinators	Signage
12	11	Projects are not completed according to schedule	Requests to move up the completion date are carefully thought out and considered	Tasks on alternative paths are completed if tasks on the critical path are on hold	
13	12	Non-performing suppliers and vendors	UTSA project coordinators and OFPC staff are on site every day evaluating the daily processes.	Inspections occur throughout construction.	
14	13	Texas Commission on Environmental Quality (TCEQ) violations	Assistant Director is knowledgeable of requirements	TCEQ inspections	
15	14	Non compliance with code	Facilities staff and Health and Safety staff have professional licensees	Project coordinators attending specialized training classes and conferences	Architects or Engineers are hired as necessary
16	15	Total project cost are not reconciled	CPA on staff performs annual reconciliations of all projects	Reconciliation of total project costs occurs at project close out	

Exhibit 6 – UTSA’s Risks and Controls

We asked management if they would be willing to allow us to facilitate a risk and control self-assessment with their team members. They were willing, but asked us to refer to risks as “vulnerabilities.” There was a feeling that the word risk might have a negative connotation and not provide the hoped-for results. This was an interesting comment that we as auditors do not hear every day and one that we were willing to accommodate.

The risk assessment was sent in a Microsoft Excel file via email to Engineering and Project Management staff (see Exhibit 7). Since we had only met with management to this point, we carefully crafted the instructions with as little “audit-ese” as possible in an effort to make obtaining results as easy as possible for the respondent. Management and staff were asked to rank the vulnerabilities based on the current procedures in place on a scale of 1-5 with 5 being the highest risk.

A	B	C
1	Vulnerabilities of Construction Management	
2		
3	Vulnerability = 5 if high considering current procedures in place	
4	Vulnerability = 3 if medium considering current procedures in place	
5	Vulnerability = 1 if low considering current procedures in place	
6		
7	Vulnerability	Ranking
8	1 Competitive bidding of projects not occurring when required	
9	2 Change orders not managed	
10	3 Conflicts of interest of UTSA Facilities staff not managed	
11	4 Conflicts of interest of contractors (job order, general, and subs) not managed	
12	5 Insurance inadequate or expires	
13	6 Bonding inadequate or expires	
14	7 Workload of Project Coordinators is not manageable	
15	8 Inaccurate project estimates due to no Professional Cost Estimators on staff	
16	9 Skill set of project coordinators is not adequate for job requirements	
17	10 Work site is not safe	
18	11 Projects are not completed according to schedule	
19	12 Non-performing suppliers and vendors	
20	13 TCEQ violations	
21	14 Non compliance with various building codes	
22	15 Total Project Cost is not reconciled at completion of project	

Exhibit 7 – Vulnerabilities Sent to Client

Some of the staff members responses ranked all risks/vulnerabilities as a “1.” This was somewhat expected since many people will shy away from a high ranking for fear that it may appear that they are not doing their job properly.

The response rate was 100%, which was very positive, and the results, taken as a whole, were very enlightening. We further analyzed the results by creating weighted averages for the different staff levels (e.g., project coordinators only, upper management only, combined all, etc.) in order to better understand their risks (see Exhibit 8).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Vulnerabilities of Construction Management																		
2	Risk = 5 is high considering current procedures in place																		
3	Risk = 3 is medium considering current procedures in place																		
4	Risk = 1 is low considering current procedures in place																		
5																			
6																			
7	Vulnerability	Project Coord	Project Coord	Project Coord	Project Coord	Project Coord	Project Coord	Project Coord	Asst Director Capital	Asst. VP	Director	Associate VP	Asst Director	Average	Weighted Average	Legend WA excluding "all 1" rankings	3.0-5.0 Average Project Coordinators	1.7-2.9 Average All Directors, AVPs	1.0-1.6 Average Director and higher
8	7 Workload of Project Coordinators is not manageable	1	1	3	2	1	3	5	3	5	4	5	3.0	3.4	4.0	1.8	4.4	4.7	
9	8 Inaccurate project estimates due to no Professional Cost Estimators on staff	1	1	1	1	1	3	5	3	3	4	5	2.5	2.9	3.4	1.3	4.0	4.0	
10	4 Conflicts of interest of contractors (job order, general, and subs) not managed	1	1	1	1	1	1	1	2	3	3	4	1.7	2.1	2.4	1.0	2.6	3.3	
11	11 Projects are not completed according to schedule	1	1	3	1	1	1	3	3	3	2	4	2.1	2.3	2.6	1.3	3.0	3.0	
12	2 Change orders not managed	1	1	1	1	1	1	1	3	1	2	4	1.5	1.7	1.9	1.0	2.2	2.3	
13	3 Conflicts of interest of UTSA Facilities staff not managed	1	1	1	1	1	1	1	1	3	1	3	1.4	1.5	1.6	1.0	2.0	2.3	
14	12 Non-performing suppliers and vendors	1	1	1	2	1	1	5	2	1	3	1	1.7	1.7	1.9	1.2	2.4	1.7	
15	13 TCEQ violations reconciled at completion of project	1	1	1	2	1	1	3	1	1	2	2	1.5	1.5	1.6	1.2	1.8	1.7	
16	15 Competitive bidding of projects not occurring when required	1	1	1	1	1	1	1	2	1	2	1	1.2	1.2	1.3	1.0	1.4	1.3	
17	5 Insurance inadequate or expires	1	1	1	3	1	1	1	1	1	2	1	1.3	1.3	1.4	1.3	1.2	1.3	
18	6 Bonding inadequate or expires	1	1	1	3	1	1	1	1	1	2	1	1.3	1.3	1.4	1.3	1.2	1.3	
19	14 Non compliance with various building codes	1	1	1	1	1	1	5	2	1	1	2	1.5	1.5	1.6	1.0	2.2	1.3	
20	9 not adequate for job requirements	1	1	1	1	1	3	1	3	1	1	1	1.4	1.3	1.4	1.3	1.4	1.0	
21	10 Work site is not safe	1	1	1	1	1	1	3	2	1	1	1	1.3	1.2	1.3	1.0	1.6	1.0	

**Exhibit 8 – Risk Assessment Analysis**

After analyzing the results, we presented the results to management for review and discussion prior to beginning our audit. We also combined some similar risks, resulting in our list of 15 becoming 12. Agreement from management was key because we were asking that management create action plans for the risks/vulnerabilities deemed “red.” I will have to say that this approach has not always been successful in the past. In prior audits, client management has not always been supportive of the idea of preparing action plans to address their red risks while our audit time is spent on those risks deemed yellow or green. Their arguments center on the idea that the audit is not focusing on the most important risks. Of course, our reply is “if you know it is a red risk, why do you need an audit to validate what you already know.” In our opinion, management should mitigate the risk to an acceptable level, then an audit can validate that the controls are working as expected.

However, in this particular audit, we were able to successfully make the argument to management and proceeded to prepare an audit program based upon yellow and green coded risks where controls were stated to be in place and working as intended (see Exhibit 9).

<b>VULNERABILITY</b>	<b>AUDIT OBJECTIVE</b>
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Change orders not managed	Determine if change orders for institutionally managed projects are managed effectively and efficiently within university guidelines.
Conflicts of interest of UTSA Facilities staff not managed	Determine if conflicts of interest of the appropriate Engineering and Project Management staff within the Office of Facilities are managed appropriately.
TCEQ violations	Determine if procedures exist to ensure Texas Commission on Environmental Quality (TCEQ) standards are being followed for all institutionally managed projects, when required.
Non-performing contractors	Determine if procedures are in place to ensure contractors are completing agreed upon procedures for institutionally managed construction projects.
Total Project Cost is not reconciled at completion of project	Determine if total project costs are being reconciled at the completion of projects.
Non compliance with various building codes	Determine if procedures exist to ensure compliance with various building codes.
Competitive bidding of projects not occurring when required	Determine if bidding of institutionally managed projects is occurring when required and with appropriate justification to support the contractor selected.
Insurance and bonding inadequate or expires	Determine if procedures exist to ensure bonding and insurance policies are adequate for all institutionally managed projects.

Exhibit 9 – Audit Program Objectives

As the audit fieldwork was occurring, management was working on action plans. Therefore, once our fieldwork and draft report were complete, so were management’s action plans for red risks/vulnerabilities (see Exhibit 10). Since the conclusion of the audit, we have tracked the action plan status as we normally track recommendation status.

<b>VULNERABILITY</b>	<b>SUMMARY OF MANAGEMENT’S ACTION PLANS</b>
Workload of Project Coordinators is Not Manageable	Three vacant existing Project Coordinator positions were filled in September. Research of project workload versus staffing will be conducted. Tools to assist with project administration will be purchased or developed.
Conflict of Interests Contractors	Contractors’ sub-contractors will be asked to affirm that they have not provided any favor or service to a public servant and will be held to the same standards as contractors.
Inaccurate Project Cost Estimates	A Cost Estimator is anticipated to be hired by May 2010. Key performance metrics of project cost estimates and actual project costs will be developed.
Projects Not Completed According to Schedule	Project coordinators will be trained on the newly purchased scheduling software. Project coordinators will include schedule contingencies when developing project schedules.

Exhibit 10 – Management’s Action Plans

As I imagine an architect learns something new with each dorm or research facility design he creates, we too learned many lessons during this audit of institutionally managed construction projects.

1. Be prepared and educate yourself: The ACUA Risk Dictionary provided us with a significant starting point and a framework for issues in an area that had not been familiar to us. We were easily able to drill down and see controls that covered multiple risks.
2. Obtain management buy-in: Management willingness to create action plans for high-risk areas was key. This approach works well when management is open to new ideas and is not stuck in the traditional way to audit based on past experiences. Another reason this worked well is that we convinced management that our internal audit time would be best spent on providing them assurance that the risks their staff told them are mitigated, truly are.
3. Be flexible: Auditors must also be willing to adjust and change. We listened to management when they asked us to use the word “vulnerability” instead of the word “risk” when working with their staff. They helped us shed the traditional auditor perception that we were already striving to stay away from.
4. Adjust to the client’s business: Risk assessments can be successfully completed in various formats. Since the management and staff providing risk assessments are out of the office and around campus supervising construction projects, it would have been extremely difficult to schedule one risk assessment in person. Risk assessing via email allowed for staff to complete the assessment in their own time frame. Management also supported our efforts and encouraged all staff to complete the risk assessment.
5. Listen to management: From the very first interview, we listened to management. Because we did not have a set agenda or set audit plan for our initial interviews, we were better listeners. This allowed us to participate in the interview and ask follow up questions without having to worry about getting through a set list of questions.

Even though we are not experts at how to manage construction projects, we are experts at risks and controls. Not pretending otherwise set the stage for an audit full of open communication. The lessons learned will stay with us as we continue on our never-stale, ever-changing careers as internal auditors.

## Audit Program

Objective 1: Determine if change orders for institutionally managed projects are managed effectively and efficiently within university guidelines.

1. Through discussions with Engineering and Project Management, gain a more detailed understanding of the change order procedures, including, but not limited to, the following:
  - a. The thresholds, if any, for change orders being treated as new contracts.
  - b. The list of offices the change orders are routed through.
  - c. The rationale for existing routing procedures.
  - d. The necessary supporting documentation that must be included in change orders.
2. Examine a sample of change orders (based on the population, amount, and discussions with the project lead, document determination of appropriate sample size) to ensure:
  - a. They are supported in writing as to the reason the change order is necessary.
  - b. The documentation is written and approved prior to the beginning of work by a person with the correct authority in institutional policies and procedures.
  - c. There is documentation supporting the fact that the change orders are in compliance with the original contract.
  - d. Approval is obtained from appropriate parties as determined in step 1.
  - e. Review that the bonding and insurance checklist on the change order/contract routing form is appropriately signed. This fulfills sample testing for the objective. Obtain an understanding of bonding and insurance requirements on institutionally managed projects, and determine if coverage is reviewed for all institutionally managed projects
3. Based on information provided by Engineering and Project Management utilized to track project expense, analyze the dollar amount and number of change orders for a population of completed institutionally managed projects.
  - a. The population should be based on information available. Projects completed for the period of September 2008-June 2009 is an appropriate population.
  - b. Based on the analysis, determine if there is a natural cut-off of typical ranges of change orders.
  - c. Based on the analysis, determine if it would be appropriate to suggest the procedures for a change orders under a determined threshold amount be less than change orders over a threshold.
    - i. The analysis could result in a recommendation which may include routing change orders under a determined threshold to fewer offices.

Objective 2: Determine if conflicts of interest of the appropriate Engineering and Project Management staff within the Office of Facilities Services are managed appropriately.

1. Due to the fact that there are multiple conflict of interest/financial disclosure procedures for various UTSA employee groups, briefly document/expand on the three processes to set a clear direction for the audit work to fulfill this objective.
  - a. Project Coordinators complete a Non-disclosure Stmt for each project.
  - b. All UTSA employees complete an acknowledgement as part of the annual compliance refresher training.
  - c. Upper Management at UTSA completes a Financial Disclosure and Conflict of Interest Statement.

2. Upper Management at UTSA completes a Financial Disclosure and Conflict of Interest Statement. Gain a complete understanding of the conflict of interest procedures for staff that report to the Director of Engineering and Project Management. It is our understanding that Project Coordinators complete a Disclosure statement for each project completed. In addition, gain an understanding of the types of transactions that project coordinators enter into with outside vendors and contractors on behalf of the University to complete their projects.
  - a. The scope of our testing will be on project coordinators who complete institutionally managed projects. However, when obtaining an understanding of the processes, distinguish the similarities and differences of the procedures of project coordinators who complete institutionally managed projects and those that complete capital projects.
3. Obtain a sample of Disclosure Statements from several different institutionally managed projects (based on the population and discussions with the project lead, document determination of appropriate sample size) to make sure that project coordinators are signing one for each project they coordinate.
4. Consult with the Compliance Communications Specialist to determine if all employees that report to Engineering and Project Management are current on their annual compliance training. These acknowledgements reference to HOP 4.1 Section E that states, "No employee shall transact any business in his or her official capacity with any business entity of which the employee is an officer, agent, or member, or in which the employee owns a substantial interest."

Objective 3: Determine if procedures exist to ensure TCEQ standards are being followed for all institutionally managed projects.

1. Obtain and review copies of previous TCEQ inspections (based on the population and discussions, document determination of appropriate sample size) to ensure UTSA is in compliance with TCEQ violations.
2. Obtain an awareness of Edward's Aquifer Recharge Zones on campus, what the necessary requirements are for them, and if documentation exists that ensure these requirements are being met.

Objective 4: Determine if procedures are in place to ensure contractors are completing agreed upon procedures for institutionally managed construction projects.

1. Document the procedures Engineering and Project Management has in place when a supplier or vendor is contracted to complete work on an institutionally managed project.
  - a. Determine what is documented indicating both parties have agreed on the scope of the work and if contracts documenting the agreement are signed by both UTSA representatives and the contractors' representatives.
2. Discuss how Engineering and Project management ensures the contractors complete the work agreed upon.
3. Discuss the procedures in place if the contractors do not complete agreed upon work.
4. Based on the information gathered, determine if a recommendation requiring consequences for contractors who do not perform agreed upon procedures for institutionally managed projects is warranted.

Objective 5: Determine if total project costs are being reconciled at the completion of projects.

1. Contact the Budget Performance Project Analyst to gain an understanding of the reconciliation process and timing of
  - a. All projects (completed and in progress) on an annual basis

- i. Determine how the analyst ensures all project costs are reported in the reconciliations.
    - ii. Determine if each project has a separate account number or budget group and if the reconciliation is tied to balances in Define.
  - b. Any project completed.
    - i. Gain an understanding of what happens to unspent funds encumbered for the project.
    - ii. Determine how the analyst ensures all project costs are reported in the reconciliations.
- 2. Chose a sample of most recently completed projects from the Engineering and Project Management Access Database (based on the population and discussions with the project lead, document determination of appropriate sample size) to ensure:
  - a. The accounts are being reconciled after project completion.
    - i. All project costs are included on the reconciliation.
    - ii. Invoices can be traced to the reconciliations.
    - iii. Any variances can be explained.
  - b. Accounts are closed after completion of project and any fund balances are appropriately transferred/returned.
  - c. Verify any other information gathered during the interview process.

**Objective 6: Determine if procedures exist to ensure compliance with various building codes.**

1. Obtain an understanding of various building codes (electrical, plumbing, ADA) that Engineering and Project Management must follow when building institutionally managed projects.
2. Discuss the procedures in place to ensure compliance with various building codes, including checklists or templates utilized.
3. Based on the information gathered, review a sample (based on the population and discussions, document determination of appropriate sample size) of recently completed projects to determine if review of compliance with various buildings codes was conducted and documented.

**Objective 7: Determine if bidding of institutionally managed projects is occurring when required and with appropriate justification to support the contractor selected.**

1. Expand upon existing knowledge of when it is appropriate for institutionally managed projects to 1) be assigned to job order contractors or 2) go out for bid. Determine what templates/formats are utilized to review bids. Document information gathered.
2. Obtain and review a sample of institutionally managed projects (based on the population and discussions with the project lead, document determination of appropriate sample size) that meet the requirements to go out to bid. Determine if:
  - a. Bidding occurred.
  - b. Bids received were reviewed by the appropriate team of employees.
  - c. There is documented evidence of the review of all bids.
  - d. The team utilized the Best Value Concept in compliance with HOP 8.7.
  - e. If bidding does not occur, proper signoff, including justification for not obtaining bids, is obtained from the Associate Vice President for Facilities Services.

**Objective 8: Determine if procedures exist to ensure bonding and insurance policies are adequate for all institutionally managed projects.**

1. Contact the Risk/Life Safety Manager to obtain an understanding of umbrella insurance and binding policies for institutionally managed projects.

- a. Discuss the procedures in place to ensure insurance and bonding coverage is adequate for UTSA's institutionally managed projects.
  - b. Document the terms of the policies and compare to scale of institutionally managed projects.
  - c. Discuss any concerns he has related to the policies.
2. Review a sample of Routing Checklists for contracts selected in objective. Determine if change orders for institutionally managed projects are managed effectively and efficiently within university guidelines.
  - a. Confirm the bonding and insurance sections are being properly filled out and signed.

### About the Author

Laura Buchhorn has worked in the Office of Auditing and Consulting Services at the University of Texas at San Antonio (UTSA) since August 2005 and currently serves as an Audit Supervisor. Prior to working at UTSA, she worked as an External Auditor for PricewaterhouseCoopers and as a Financial Analyst for a small management company. Laura received her BBA and Masters in Professional Accounting from the University of Texas at Austin. Laura is a Certified Internal Auditor (CIA) and holds a Certification in Control Self Assessment (CCSA).