



Internal Audit Department

International Pavilion Construction Audit

**March 2016
Report Number FY 16-07**

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Northern Arizona University
International Pavilion Construction Contract
Audit Report
March 21, 2016

Summary

Northern Arizona University contracted with Kinney Construction Services, Inc., (KCS) to construct an International Pavilion on the university's south campus. Our audit of this construction project is included in NAU's Fiscal Year 2016 Annual Internal Audit Plan, as approved by the Arizona Board of Regents Audit Committee. New construction is required to accommodate student enrollment growth and enhance students' learning experiences. The audit links to ABOR's strategic goal of promoting student learning and success.

Background: The project is being delivered through the Construction Manager at Risk (CMAR) method. Construction administration and project management are being provided by Facility Services.

The International Pavilion is an event destination serving Northern Arizona University and the Flagstaff community. It is also the event center serving the NAU International House. This project included construction of a two-story, 9,800 square foot building and is expected to achieve LEED Platinum Certification. The facility contains an auditorium, class rooms, activity room, community and catering kitchens, offices, and open meeting areas. Exterior amenities include a plaza, ADA compliant pathways, and a new Global Peace Garden. By utilizing a combination of efficient heating and cooling systems, natural ventilation, LED lighting, and rooftop solar, the International Pavilion is capable of generating more energy than it consumes and is projected to be the first Net Zero Energy building on NAU's campus. The debt service will be funded internally by the Center for International Education and student fees.

The construction contract with the CMAR was executed in July 2014. A notice to proceed was issued in October 2014. Design professional services were provided by RSP Architects, Ltd., for \$503,120. Kinney's pre-construction costs were \$62,168. The guaranteed maximum price for construction, excluding pre-construction and architectural costs, is \$4.8 million.

The Pavilion was substantially complete in July 2015 and was opened to students beginning August 2015.

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Audit Objectives: The primary objectives of this review were to determine if:

- contract terms are applied as written;
- charges are adequately supported by actual costs incurred by the CMAR;
- the subcontractor selection process is consistent with ABOR policies;
- proposed change orders are sufficiently documented; and
- fees are applied as specified by the construction contract.

Scope: The scope of this audit was the project construction phase from inception through November 30, 2015 (Pay Application 11). We relied on Facility Services' expertise for the construction technical aspects and to determine whether the University received the contracted scope of work. Accordingly, the audit scope did not include any on-site inspections to assess construction methods, materials, or compliance with design specifications.

Methodology: The audit objectives were accomplished using the current Tri-University construction audit program (August 1, 2013 edition), which includes:

- Reconciling construction payments, as recorded in NAU's financial system, to applications for payments.
- Verifying that pay applications are supported by the contractor's internal financial records.
- Performing a detailed review of transactions charged to General Conditions and other reimbursable costs to ensure they are allowable and adequately supported.
- Verifying subcontractors were selected according to contract requirements and ABOR procurement policies.
- Confirming that overhead and fees on proposed change orders are calculated consistently and per the contract. Determining whether GMP adjustments are properly approved by NAU.
- Assessing whether proposed change orders provide sufficient information to validate price-reasonableness and, where appropriate, rates are consistent with the subcontractor contracts.
- Verifying that charges for bonds, insurance, and sales taxes are documented and per the contract.
- Ensuring that usage of contingency funds and allowances are properly approved.

The audit was conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing*.

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Conclusion: Construction of the International Pavilion was adequately controlled by Facility Services. At the end of audit fieldwork there are several outstanding items to complete before project close out:

- obtaining final lien waivers and notices that the CMAR released retainage funds to subcontractors
- verifying that all punch list items were resolved
- confirming that liability insurance, bonds, and taxes are charged to the project based on actual costs
- evaluating project results and the performance of the CMAR.

Opportunities for improvement are reflected in the remainder of the report. The areas we reviewed during this audit and the status of each are provided in the following table.

General Control Standard (The bulleted Items are internal control objectives that apply to the general control standards, and will differ for each audit.)	Control Environment	Recommendation No.	Page No.
Reliability and Integrity of Financial and Operational Information			
<ul style="list-style-type: none"> • Contractor billings and change orders are supported by the contractor's job cost ledger. 	Reasonable to Strong Controls in Place		
<ul style="list-style-type: none"> • The contractor's job cost ledger is supported by sub-ledgers that facilitate analyses and reviews, such as equipment rental charges, payroll schedules, and subcontractor payment ledgers. 	Reasonable to Strong Controls in Place	1	5
<ul style="list-style-type: none"> • Adequate documentation is provided to support charges made to General Conditions with the pay applications and General Conditions are allowable per the contract. 	Reasonable to Strong Controls in Place		
<ul style="list-style-type: none"> • Allowances and contingencies are accurately tracked and properly approved. 	Reasonable to Strong Controls in Place		
<ul style="list-style-type: none"> • Charges for indirect costs such as fees, taxes, and insurance are supported or accurately calculated. 	Reasonable to Strong Controls in Place	2	6
<ul style="list-style-type: none"> • Subcontractor change order 	Reasonable to Strong	1	5

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proposals are submitted with sufficient information to determine price reasonableness.	Controls in Place		
Effectiveness and Efficiency of Operations			
<ul style="list-style-type: none"> The overall contract is clear, effective, and efficient to administer. 	Reasonable to Strong Controls in Place		
<ul style="list-style-type: none"> Allowable costs are sufficiently defined in the contract and are efficiently processed. 	Reasonable to Strong Controls in Place		
Safeguarding of Assets			
Compliance with Laws and Regulations			
<ul style="list-style-type: none"> The contract and ABOR selection process for subcontracted work is followed and the subcontracts are supported by the bid awards. 	Reasonable to Strong Controls in Place		
<ul style="list-style-type: none"> Change orders are priced per the contract and are properly approved. 	Reasonable to Strong Controls in Place	1	

We appreciate the assistance of the staffs of Kinney Construction Services and Facility Services during the audit.

Management is supportive of our recommendations and has actively begun working to implement their identified action items.

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Audit Results, Recommendations, and Responses

1. Facility Services can improve its verification of costs charged to construction projects.

Condition: The audit identified two situations where Facility Services can improve its verification of project costs:

- Review of the three project change orders indicated that \$23,818 of \$50,647 charged for subcontractor labor was not supported by documentation sufficient to verify the labor rates that were charged.
- NAU did not obtain a listing of equipment expected to be used on the project by subcontractor KCS, Ltd. The listing should include the fair market value of each item at the time it was used and is contractually required to ensure that equipment rental charges are not excessive. The total charged for equipment rental expense was \$162,676. An evaluation of four of the items rented did not reveal any excessive charges.

Criteria: Facility Services should ensure that the CMAR provides adequate supporting documentation for the timely verification of the costs charged to the project.

Cause: Facility Services relied on reasonableness tests to verify these project costs.

Effect: Some project costs were inadequately supported.

Recommendation: Facility Services should ensure that the CMAR provides supporting documentation sufficient to verify the reasonableness of all costs.

Response: Facility Services agrees that the subcontractor's change orders presented by KCS for their electrical subcontractor (Delta Diversified, Inc.) were lacking the breakdown showing the number of hours, multiply by labor hourly rate. However, the hourly rates for all labor under the electrical subcontractor were identified in the Subcontractor's Agreement between KCS and Delta Diversified and therefore Facility Services' Project Manager was able to verify that the submitted number of hours were reasonable and fair for the added scope prior to processing the Change Orders that were including electrical scope.

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In the future, we will ensure that proper labor cost breakdown is shown on all subcontractors' proposed change orders, identifying number of hours and hourly rates.

As far as the equipment rates, the GMP Amendment # 1 included a list of equipment rental rates as hourly, daily, weekly and monthly rates. At the time of GMP negotiation with KCS, we compared these rates to equipment rates from rental equipment vendors; to RS Means rates and to equipment rates provided on other CMAR projects and found them to be market competitive and reasonable. In the future, we will ask the CMARs to provide a list of the specific pieces of equipment they are planning on using on their specific projects, and to provide the market value of such equipment so that we can better verify that the cost of renting these equipment doesn't exceed their market value. On bigger CMAR projects, with longer duration, we do keep a detailed equipment rental log to keep track of the total rental cost spent for each piece of equipment, compared to its market value. We will continue to do so, and extend this practice to smaller CMAR projects.

2. The reasonableness of General Liability Insurance charges should be verified.

Condition: Amounts paid by the CMAR for General Liability Insurance cannot be verified. General Liability Insurance is required of all general contractors to provide liability coverage for any accidental bodily injury or proper damage incurred to third parties on the job site.

Criteria: The current Tri-University construction contract template allows insurance to be based only on actual costs only.

Cause: In this project, the amount charged for General Liability Insurance on a construction project is based on the total project revenues and estimated premium costs of the CMAR for all its projects during the construction period. The CMAR considers this to be proprietary information.

Effect: The actual costs for General Liability insurance cannot be determined.

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Recommendation: Facility Services should meet with the Tri-University audit committee to identify contract changes that will enable the reasonableness of General Liability Insurance to be verified.

Response: This is a recurrent issue that has been found on other CMAR project audits. On this project, we have repetitively and unsuccessfully asked KCS to provide a copy of their invoice for General Liability, and to explain how they were coming up with their proposed % for General Liability insurance, but have not been able to obtain such documentation.

In general, the cost of General Liability insurance purchased by the CMARs varies, depending on the past project experience of the firm, its track records in terms of performance and claims, and that insurance is purchased on a company wide basis, not project specific. We recommend that the Tri-U audit committee propose a range of % that would be reasonable to apply to the Direct Construction Cost to calculate the cost of the General Liability insurance. We would then agree with the CMAR, at the time of contract negotiation, to a % rate for GL insurance.

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