**ITEM # 12**
**DATE: 08-10-21**

## COUNCIL ACTION FORM

**SUBJECT**: **APPLIED SCIENCES TRANSFORMER CONVERSION**

**BACKGROUND**:

ISU's Applied Sciences Building is served as a direct customer of Ames Electric Services. In the early 1960s, when the facility reached peak employment due to its materials research and the construction of its heavy water reactor for research, a new dual-fed indoor substation was constructed in compliance with the Atomic Energy Commission's service requirements at the time.

The electric service involved a special installation where two dry-type transformers and associated 13.8kV switchgear were installed in the building's basement. The City of Ames specified, procured, installed, and owned these transformers and all the associated cabling and switchgear that was also located in the basement. These transformers and equipment have exceeded their useful life. Due to the specialized nature of the transformers, there are no replacements in inventory in the event of failure.

It is Electric Services' standard practice to serve buildings of this type using outdoor pad-mounted transformers that can be easily inspected, maintained, and replaced when needed with common inventory transformers. In order to bring this installation into conformance with current standards and mitigate the growing likelihood of a transformer failure and subsequent extended emergency outage – with accessibility difficulties associated with the basement-installation -- it was determined that the service to this building would be converted to a conventional outdoor transformer service. This conversion is now complete. ISU now owns and maintains all the 480V facilities beyond the secondary connections at the new outdoor pad-mounted transformer.

**The entire conversion project costs are Electric Services' responsibility to pay. If the work had been entirely outdoor work, Electric Services would have performed this work itself. However, ISU preferred to procure and manage the interior work for this project, to address coordination and liability concerns. Therefore, Electric Services installed the new transformer and 13.8kV cables to it, and ISU procured and managed the interior conversion work, including the exterior conduits and foundation necessary to accommodate a new outdoor transformer. For the duration of the project and into the future, ISU is liable for any issues that arise from the transformer into the building, while Electric Services is responsible to maintain service up to and including the transformer.**

Electric Services included $120,000 for the ISU portion of the project in the budget. Through its competitive bidding process ISU managed expenses well and has submitted an invoice for final expenses in the total amount of $93,465.

| | Work Performed By | Financial Obligation | Budgeted Amount | Actual Expenses |
|---|---|---|---|---|
| **Interior Work** | ISU | Electric Svcs. | $120,000 | $93,465 |
| **Exterior Work** | Electric Svcs. | Electric Svcs. | 7,582 | 8,192 |
| **Total Project** | | | **$127,582** | **$101,657** |

Due to the amount, staff is seeking Council's approval of payment for this invoice for ISU's expenses for the work described above.

**ALTERNATIVES:**

1. Authorize payment to ISU for its share of the Transformer Conversion Project expenses in the amount of $93,465.

2. Refer this item back to staff for further information.

**CITY MANAGER'S RECOMMENDED ACTION**:

This project was necessary for Electric Services to continue providing safe, reliable, service to the Applied Sciences Building and mitigate the potential for a long emergency outage and/or an emergency purchase of replacement transformers. The new outdoor pad-mounted transformer represents best practices in the utility industry to commercial customers of this nature. ISU has procured a portion of the work for this conversion project rather than having Electric Services contract that work. Reimbursement to ISU for its share of the expenses is appropriate in this situation.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.