



Travis County Commissioners Court Voting Session Agenda Request

Meeting Date: February 5, 2019

Agenda Language: Consider and take appropriate action on scope of work for the Energy Savings Performance Contract Proposal at the Travis County jail facilities

Prepared By/Phone Number: Travis Gatlin (512) 854-9065 and Alan Miller (512) 854-9726

Elected/Appointed Official or Department Head: Jessica Rio, County Executive

Commissioners Court Sponsor(s): Commissioners Gomez and Shea

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Background/Summary of Request and Attachments: Commissioners Court received a work session presentation from Schneider Electric (SE) on November 8, 2018, where SE presented potential energy saving projects for Travis County jail facilities. The total amount of these projects was \$44 million. The Commissioners Court requested that SE work with the Planning and Budget Office to further refine the potential projects and present them again once SE and the Planning and Budget Office were in agreement on the cost and savings for the project.

This effort is now complete and SE is presenting to Commissioners Court two options. Both are significantly less than the original \$44 million and provide greater return on the County's investment. It is important to note that captured in the savings is an estimate of funding that the County will have to spend in the future for replacement equipment at or near the end of its useful life. SE projected that replacement equipment totaling between \$4.9 million for Option 1 and \$10.8 million for Option 2 will need to be made over the 20 year life of the project, with most of these costs coming in the next few years. These replacement costs are factored into the savings estimate as avoided costs per the performance contract savings calculation. The actual savings alone, excluding the avoided costs is not sufficient to cover the cash flow of the entire project. However, the County would likely spend more on energy and replacement infrastructure with the status quo over the next twenty years than if either proposal is implemented.

The proposals also assume that the cost of energy will continue to rise and the increased utility costs will need to be budgeted in the future with the portion related to the project savings redirected along with other identified savings towards the debt service of the project instead of being directly budgeted within the Sheriff's Office budget. The County could also decide in the future to redirect any savings within the operating budget to other operating priorities of the Commissioners Court.

AGENDA REQUEST DEADLINE: All agenda requests and supporting materials should be submitted as a pdf to the County Judge's office, agenda@co.travis.tx.us by **Tuesdays at 12 noon** for the next week's meeting.

Option 1

The first option includes projects with the highest rate of return on investment, but does not address the need for longer term resiliency of the energy infrastructure at Travis County Correctional Complex (TCCC). The cost of Option 1 is \$20.3 million and will generate \$5.4 million in savings over the twenty year term. The Net Present Value (NPV) savings factoring in the time value of money is \$4.3 million and the payback term is 12.8 years. A summary of Option 1 project details is below.

Option 1		
Project	Payback	Amount
LED Lighting - TCCC	6.5 Years	\$1,589,447
LED Lighting – TCJ, Booking	5.9 Years	\$289,021
Plumbing Retrofits – TCJ, TCCC	11.8 Years	\$5,552,787
Automation Controls TCJ	6.6 Years	\$641,687
Automation Controls TCCC	17.2 Years	\$1,852,638
DOAS at multiple buildings	21.6 Years	\$4,127,548
Upgrade to Various R-22 units to R-410a	23.7 Years	\$5,397,884
Metlink Exhaust Control+RA Ducting	6.7 Years	\$233,741
Cost Correction	N/A	\$593,242
Total	12.8 Years	\$20,277,995

Option 2

The second option provides a new central chilled water plant that uses reclaimed water to cool facilities rather than individual air chillers. This option promotes resiliency, offers redundancy and capacity for future energy loads. A Central Plant has an expected life of 50 years, while chillers only have a 20 year average life. Under this option, chillers at the TCCC will no longer need to be replaced or included in future construction projects. The cost of Option 2 is \$27.1 million and will generate \$3.9 million in savings over the twenty year term. The Net Present Value (NPV) savings factoring in the time value of money is \$3.7 million and the payback term is 14.5 years. A summary of Option 2 project details is below.

Option 2		
Project	Payback	Amount
Central Plant + Grid Buyout	28.7 Years	\$11,445,486
LED Lighting - TCCC	6.5 Years	\$1,604,229
LED Lighting – TCJ, Booking	5.9 Years	\$291,708
Plumbing Retrofits – TCJ, TCCC	11.8 Years	\$5,604,422
Automation Controls TCJ	6.6 Years	\$647,654
Automation Controls TCCC	17.2 Years	\$1,869,866
Upgrade to Various R-22 units to R-410a	23.7 Years	\$5,448,078
Metlink Exhaust Control + RA Ducting	6.7 Years	\$235,914
Total	14.5 Years	\$27,147,357

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Staff Recommendations:

PBO has worked with SE to present the most cost efficient options for the County. Without considering limited resources, PBO would recommend Option 2 as it is cash flow positive and promotes resiliency for the TCCC energy infrastructure and allows for additional enhancements such as electrical generation (potential Phase II) that could be considered in a future budget process. Option 2 assumes the County would need to invest \$10.8 million for replacement of existing equipment that would be redirected towards the project.

Option 1 has the greatest savings for each dollar of investment and the shortest payback and meets the basic goal of reducing energy costs. Option 1 assumes the County would need to invest \$4.9 million for replacement of existing equipment that would be redirected towards the project. Since Option 1 assumes the continued use of chillers at TCCC buildings, there would be an additional investment of \$5.9 million needed at some point for replacement chillers since there would not be a new central chilled water plant under this option.

Given all the current capital and operational challenges, the County could choose to delay or not start the project. The County would be obligated to provide SE with approximately \$300,000 for the cost of the Investment Grade Audit (IGA). The cost for the IGA is not required if the County chooses Option 1 or Option 2. The County will also need to plan to budget for \$10.8 million for replacement infrastructure and anticipated increased utility costs over future budget years.

Issues and Opportunities: See above.

Fiscal Impact and Source of Funding:

Both options would require the County to provide \$1.9 million in Capital Acquisition Resource Reserve (CAR) cash on hand resources to fund the LED lighting portion of project since it cannot be debt financed. The remaining amount of the project would need to be provided through debt financing. Both options assume the use of Certificates of Obligation (COs) with a twenty year term to finance the project. The County's debt policy would allow for the use of a twenty year debt term for the project under Chapter 22. Debt Policy Section 22.004 (3) since there is a financial analysis demonstrating that during the stipulated term that Travis County would spent significantly less by implementing the project.

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The following table summarizes the cost and proposed funding sources for the two options.

Option 1		
Project	Funding Source	Amount
LED Lighting	FY 2019 CAR (Cash on Hand)	\$1,878,468
Year 1 of Project	FY 2019 COs	11,152,898
Year 2 of Project	FY 2020 COs	7,246,629
Total	CAR/COs	\$20,277,995
Option 2		
Project	Funding Source	Amount
LED Lighting	FY 2019 CAR (Cash on Hand)	1,895,937
Year 1 of Project	FY 2019 COs	14,931,046
Year 2 of Project	FY 2020 COs	10,320,374
Total	CAR/COs	\$27,147,357

Required Authorizations:

Jessica Rio, County Executive, Planning and Budget Office

Travis Gatlin, Budget Director, Planning and Budget Office

Joe Hon, County Judge's Office, 512-854-9555

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A photograph of the Austin skyline at sunset, with the sun low on the horizon behind several skyscrapers. The sky is a mix of blue and orange, and the city lights are beginning to glow. The buildings are reflected in a body of water in the foreground.

Capital Recovery Infrastructure Options

Travis County and Schneider Electric

Greg Knudson, Shane White, Travis Gatlin, Alan Miller






February 5, 2019

Current State of TCSO Facilities

Why commit to making these changes?

Project Accomplishes:

Reasons for Implementation

-  Savings ▶ TCSO Current Utility Consumption 3X County's Peers
-  Smart Growth ▶ Addresses Infrastructure Needs of Master Plan Strategy
-  Modernization ▶ Dollar Impact to TCSO Budget \$25K/Week or \$1.3M/Year
-  Resiliency ▶ TCSO Liability of \$10.8M for Major Cooling System Equipment Replacements
-  Sustainability ▶ Preserve and Protect Our Environment and Natural Resources through Stewardship



Environmental Impact of the Proposed Solutions



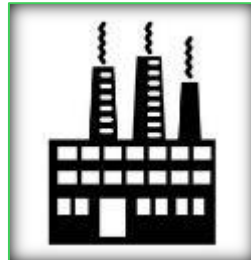
11.7M

CO₂ pounds removed from atmosphere



91K

SO_x pounds removed from atmosphere



39K

NO_x pounds removed from atmosphere



593K

Equivalent gallons of vehicle gasoline avoided



146,214

trees planted



35M

gallons of water saved annually

option **1** = base option

\$20.3 M
Project Volume

+\$5.4M
Cash Flow
(+\$4.3M NPV)

12.8
Years Payback

upgrades

- LED Lighting: TCCC, TCJ, Booking
- Plumbing Retrofits: TCCC, TCJ, Booking
- Controls: TCCC, TCJ, Booking
- DOAS: multiple buildings
- HVAC: multiple units

* Assuming 3.44% CO Financing

Confidential Property of Schneider Electric | Page 4

Key Benefits



Completely self-funded project



Excess cash flow for other projects



Saves energy while increasing efficiency



Lowers maintenance & service time



Improves safety & security



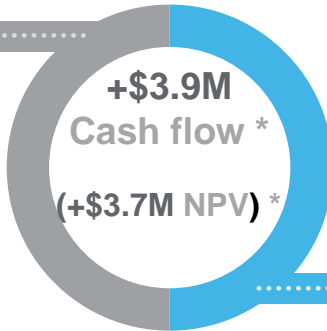
Enhances building comfort & air quality

Life Is On

Schneider
Electric

option **2** ■ Add CHW
Plant, Delete
DOAS

\$27.1 M
Project Volume



14.5
Years Payback

upgrades

New Central Chilled Water Plant

- LED Lighting: TCCC, TCJ, Booking
- Plumbing Retrofits: TCCC, TCJ, Booking
- Controls: TCCC, TCJ, Booking
- HVAC: multiple units

* Assuming 3.44% CO Financing

Additional Benefits

with Central Plant at TCCC



Completely self-funded project



Prepares County for Phase 2 Opportunities



Offers redundancy & capacity for future loads



Reduces failure points with new chilled water plant



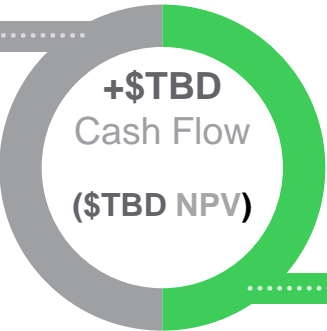
Replaces \$10.8M worth of cooling systems at end of service life

Life Is On



Phase 2: Add Microgrid (Resiliency)

~\$10 M
Project Volume



TBD
Years Payback

upgrades

- Cogeneration at Phase 1 Central Plant
- Microgrid + ERCOT ERS Program Enrollment (Austin Energy)
- DOAS: multiple buildings at TCC
- Solar PV: at Phase 1 Central Plant
- Other scopes TBD

Additional Benefits

with Cogeneration, Microgrid, DOAS, Solar PV



Significant Investment Return



Incentivized by Austin Energy Demand Response Program



Greater power resiliency & reliability with ability to operate in "island mode"



Lowers harmful emissions



Conserves natural resources



Demonstrates Travis County's commitment to sustainability

Executive Summary

How do we help?

	Option 1 Base Option	Option 2 Central Plant at TCCC	(future) Phase 2 Microgrid/Cogen/PV/DOAS
	\$20.3M Volume \$5.4M Cash Flow * (\$4.3M NPV) *	\$27.1M Volume \$3.9M Cash Flow * (\$3.7M NPV) *	~\$10M Volume
Resiliency			+
Smart Growth		+	+
Modernization	+	+	+
Savings	+	+	+
Sustainability	+	+	+

* Assuming 3.44% CO Financing

