



UNITED INDEPENDENT SCHOOL DISTRICT INFORMATIONAL ITEM

TOPIC: Progress Report on Solar Photovoltaic Panel Project

SUBMITTED BY: Manuel D. Menchaca **OF:** Director of Energy & Environmental Management

APPROVED FOR TRANSMITTAL TO SCHOOL BOARD: _____

DATE ASSIGNED FOR BOARD CONSIDERATION: 17 August 2022

The proposed project consists of installing solar photovoltaic panels at various UISD campuses and student support facilities roofs to reduce electrical energy costs for the District. Pilot project for Molina Middle School and/or San Isidro Elementary School.

U.S. Department of Energy recommends reducing the amount of electricity (kWh) used to reduce the energy charges and curtailing electricity usage during peak demand period to reduce the maximum demand (kW). The introduction of solar photovoltaic panels will address both of these issues.

Please see attached presentation document for your reference.

Budgetary Information:

Energy Savings Performance Contract funding would be used.

Preliminary estimated cost for MEP consultant services: \$75,000.00

Board Policy Reference and Compliance

CV Legal- Facilities Construction

Solar Photovoltaic Panels at Various UISD Campuses & Support Service Facilities Project Status Report



Manuel D. Menchaca

09 August 2022



Project Overview

- Project objective is to **reduce** electrical energy **costs** for the District.
 - **Installing solar photovoltaic panels** at various USD campuses & student support facilities roofs.
 - Pilot project for **Molina Middle School and/or San Isidro Elementary School**.
- Project proposed funding: **Energy Savings Performance Contract** - minimizing expenses to MEP consulting services.



Project Overview

- The electrical power generated by the solar PV panels will lower the District's electric utilities costs as follows:
 - Fix the cost per kWh of the electrical energy generated for the 20 year life of the project.
 - Reduce the electrical power peak demand.
- Electrical power storage is not being considered since it would increase capital investment approximately 50-60%.



Project Overview

- The U.S. Department of Energy solar electricity options:
 - **Purchasing solar energy system**
 - Capital investment
 - Responsible for maintenance & repairs
 - Can sell unused electricity produced to utility provider
 - **Community or shared solar system**
 - **Solar system Leases**
 - Capital investment
 - Fixed monthly payments usually less than original electricity bill



Project Overview

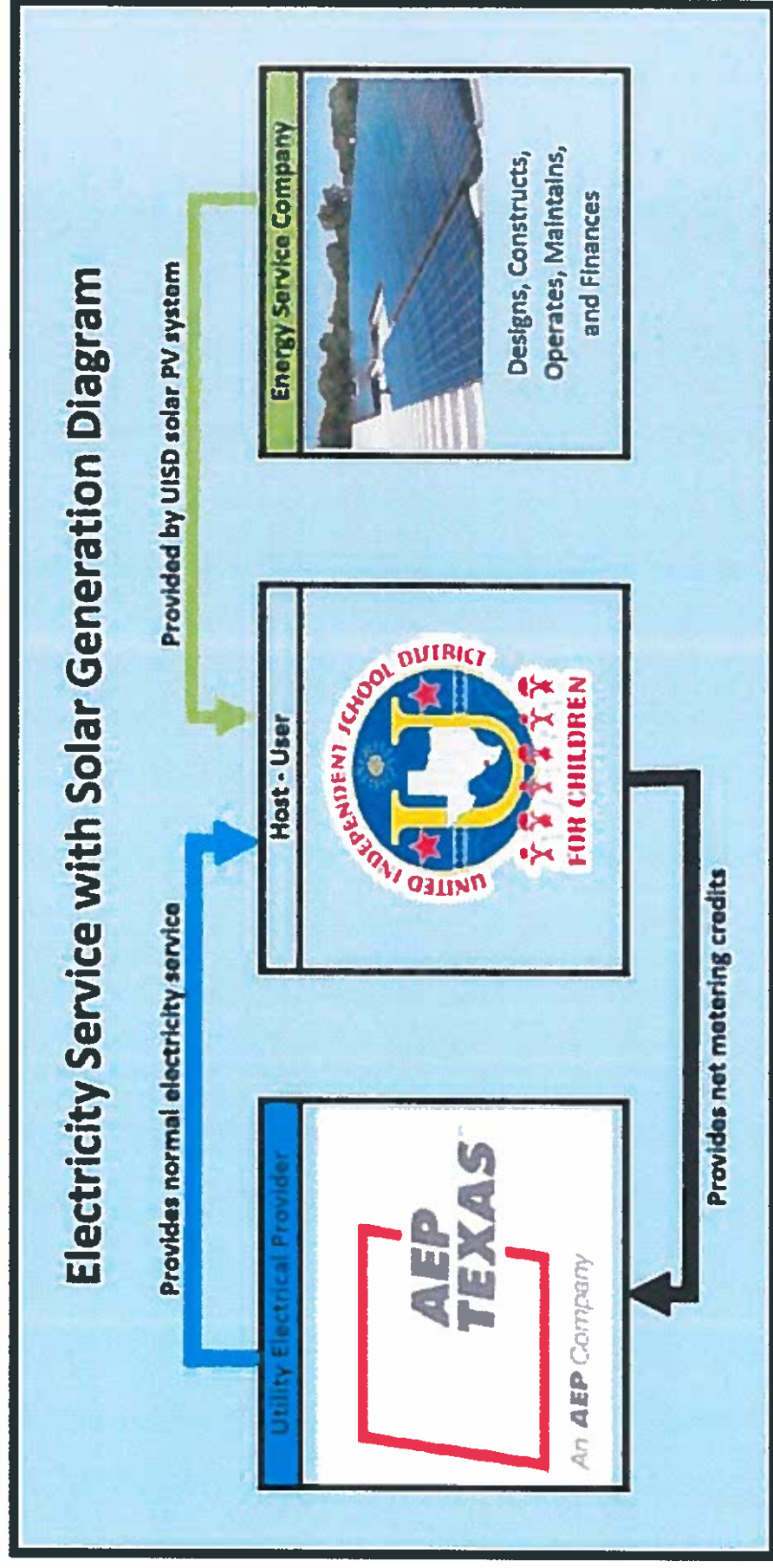
- The U.S. Department of Energy solar electricity options (continued):
 - **Power purchase agreements (PPA)**
 - No capital investment
 - Solar company responsible for maintenance & repairs
 - Can sell unused electricity produced to utility provider
 - Agree to purchase the power generated by the system at a set price per kWh
 - **Solarize programs**
 - Organize businesses to pool their purchasing power

Energy Savings Performance Contract

Requirements

- **Independent MEP prepares RFQ requesting preliminary utility audit (PUA) for Energy Service Companies (ESCOs).**
- **RFQ is issued and ESCO is selected.**
- **ESCO performs utility assessment report (UAR) audit.**
- **Independent MEP reviews the UAR & supporting documentation – submits to State Energy Conservation Office (SECO).**
 - Per UI SD Board Policy (Legal) CL.
 - Per Government code chapter 2166, section 2166.406(i)

Electricity Service Diagram



Solar Energy Generation & Storage

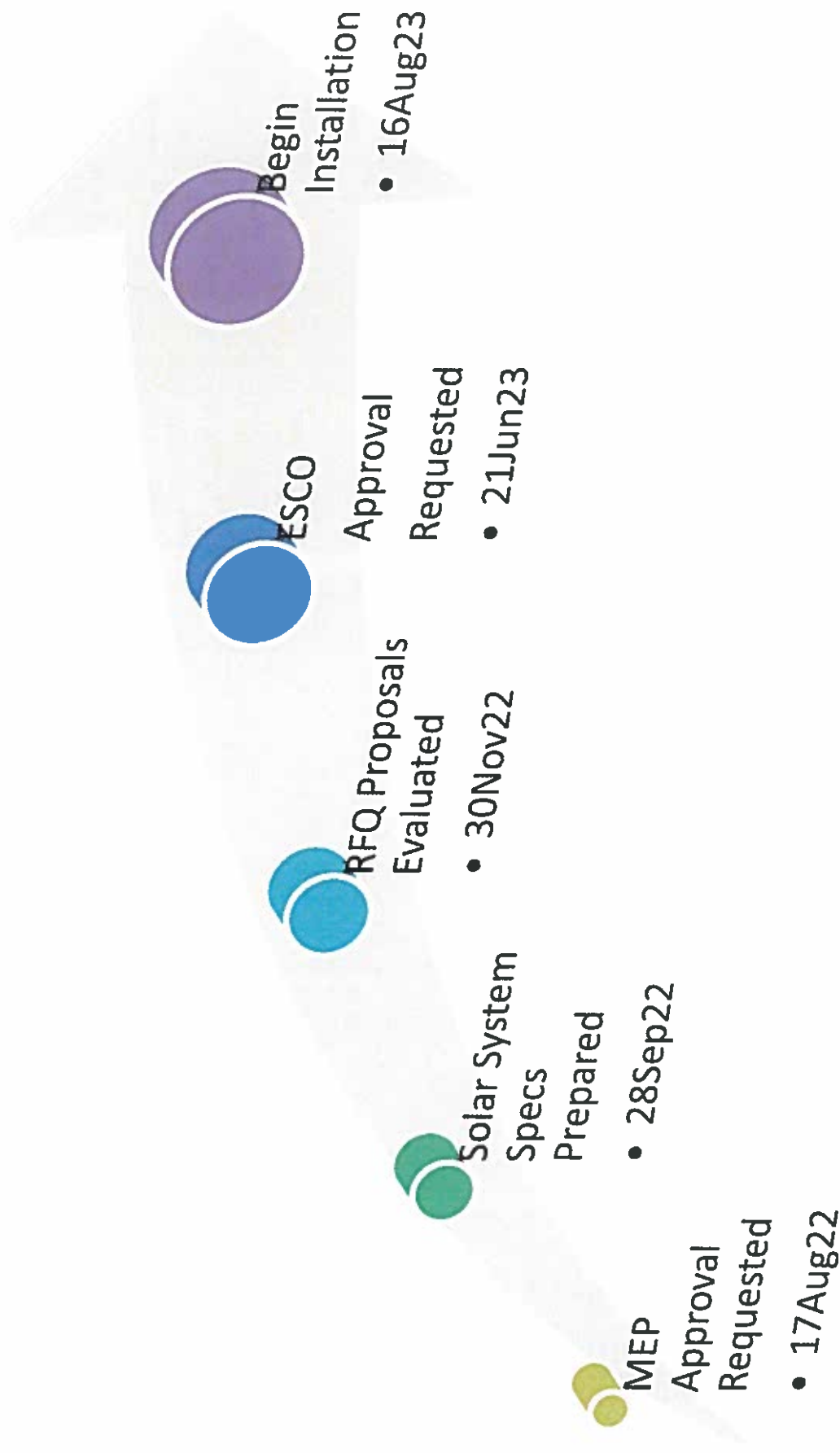


U.S. Department of Energy

Electricity Cost Components

BILL COMPONENT	HOW IT IS BILLED	HOW TO LOWER THIS CHARGE
Energy charges	• Based on amount of electricity (kWh) consumed • Cost can vary by time of use and by season	• Reduce overall consumption • Shift usage from high- to low-cost periods
Demand charges	• Based on maximum demand (kW) during a given period, typically each month	• Curtail usage during peak demand period • Shift usage to different period
Fixed charges	• Fixed cost billed monthly • Determined by rate schedule, not consumption	• Usually not possible

Timeline Milestones



Status Summary

MEP RFQ Advertised – 26 June 2022

Receive MEP RFQ proposals – 13 July 2022

Evaluate proposals & select most qualified
MEP Engineering Firm – 20 July 2022

Request approval of MEP Engineering Firm by
Board of Trustees – 17 August 2022

MEP Engineering Firm develops & completes
solar panel specs by – 28 September 2022

RFQ proposals solicited from Energy Service
Companies (ESCOs) & due on – 09 Nov. 2022

Evaluate proposals and select most qualified
ESCO by – 30 November 2022

Request Board of Trustees approval for ESCO
to perform UAR study – 18 January 2023

Begin solar panel installation - 16 August 2023

Award solar panel project – 19 July 2023

Request approval of ESCO by Board of Trustees
– 21 June 2023

MEP Firm reviews ESCO documents & gets
SECO approval by – 07 June 2023

ESCO prepares Utility Assessment Rpt. (UAR),
contract, and M&V plan due – 29 March 2023