

Instructions and Summary

Instructions and Summary

Award Number:		Date of Submission:	3/17/2023
Award Recipient:	CPS Energy	Form submitted by:	
(May be award recipient or sub-recipient)			

Please read the instructions on each worksheet tab before starting. If you have any questions, please ask your DOE contact!

1. If using this form for award application, negotiation, or budget revision, fill out the blank white cells in workbook tabs a. through j. with total project costs. If using this form for invoice submission, fill out tabs a. through j. with total costs for just the proposed invoice and fill out tab k. per the instructions on that tab.
2. Blue colored cells contain instructions, headers, or summary calculations and should not be modified. Only blank white cells should be populated.
3. Enter detailed support for the project costs identified for each Category line item within each worksheet tab to autopopulate the summary tab.
4. The total budget presented on tabs a. through i. **must include both Federal (DOE) and Non-Federal (cost share) portions.**
5. All costs incurred by the preparer's sub-recipients, vendors, and Federal Research and Development Centers (FFRDCs), should be entered only in section f. Contractual. All other sections are for the costs of the preparer only.
6. Ensure all entered costs are allowable, allocable, and reasonable in accordance with the administrative requirements prescribed in 2 CFR 200, and the applicable cost principles for each entity type: FAR Part 31 for For-Profit entities; and 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.
7. Add rows as needed throughout tabs a. through j. If rows are added, formulas/calculations may need to be adjusted by the preparer. Do not add rows to the Instructions and Summary tab. If your project contains more than five budget periods, consult your DOE contact before adding additional budget period rows or columns.
8. **ALL budget period cost categories are rounded to the nearest dollar.**

BURDEN DISCLOSURE STATEMENT

Public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Office of Information Resources Management Policy, Plans, and Oversight, AD-241-2 - GTN, Paperwork Reduction Project (1910-5162), U.S. Department of Energy 1000 Independence Avenue, S.W., Washington, DC 20585; and to the Office of Management and Budget, Paperwork Reduction Project (1910-5162), Washington, DC 20503.

SUMMARY OF BUDGET CATEGORY COSTS PROPOSED

The values in this summary table are from entries made in subsequent tabs, only blank white cells require data entry

Section A - Budget Summary								
	Federal	Cost Share			Total Costs	Cost Share %	Proposed Budget Period Dates	
Budget Period 1	(b) (4)	\$0			(b) (4)	0.00%	Example!!! 01/01/2014 - 12/31/2014	
Budget Period 2		\$0				0.00%		
Budget Period 3		\$0				0.00%		
Budget Period 4		\$0				0.00%		
Budget Period 5		\$0				0.00%		
Total	\$60,455,421	\$0				0.00%		
Section B - Budget Categories								
CATEGORY	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Total Costs	% of Project	Comments (as needed)
a. Personnel	(b) (4)							
b. Fringe Benefits	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
c. Travel	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
d. Equipment	(b) (4)							
e. Supplies	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
f. Contractual								
Sub-recipient	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
Vendor	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
FFRDC	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
Total Contractual	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
g. Construction	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
h. Other Direct Costs	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
Total Direct Costs	(b) (4)					\$60,455,421	100.00%	
i. Indirect Charges	\$0	\$0	\$0	\$0	\$0	\$0	0.00%	
Total Costs	(b) (4)					\$60,455,421	100.00%	

Additional Explanation (as needed):



b. Fringe

Detailed Budget Justification

b. Fringe Benefits

INSTRUCTIONS - PLEASE READ!!!

1. Fill out the table below by position title. If all employees receive the same fringe benefits, you can show "Total Personnel" in the Labor Type column instead of listing out all position titles.
2. The rates and how they are applied should not be averaged to get one fringe cost percentage. Complex calculations should be described/provided in the Additional Explanation section below.
3. The fringe benefit rates should be applied to all positions, regardless of whether those funds will be supported by Federal Share or Recipient Cost Share.
4. Each budget period is rounded to the nearest dollar.

Labor Type	Budget Period 1			Budget Period 2			Budget Period 3			Budget Period 4			Budget Period 5			Total Project
	Personnel Costs	Rate	Total	Personnel Costs	Rate	Total	Personnel Costs	Rate	Total	Personnel Costs	Rate	Total	Personnel Costs	Rate	Total	
EXAMPLE!!! Sr. Engineer	\$170,000	20%	\$34,000	\$10,000	20%	\$2,000	\$10,000	20%	\$2,000	\$10,000	20%	\$2,000	\$10,000	20%	\$2,000	\$38,000
			\$0			\$0			\$0			\$0			\$0	\$0
			\$0			\$0			\$0			\$0			\$0	\$0
			\$0			\$0			\$0			\$0			\$0	\$0
			\$0			\$0			\$0			\$0			\$0	\$0
Total	\$0		\$0	\$0		\$0	\$0		\$0	\$0		\$0	\$0		\$0	\$0

A federally approved fringe benefit rate agreement, or a proposed rate supported and agreed upon by DOE for estimating purposes is required at the time of award negotiation if reimbursement for fringe benefits is requested. Please check (X) one of the options below and provide the requested information if not previously submitted.

A fringe benefit rate has been negotiated with, or approved by, a federal government agency. A copy of the latest rate agreement is/was included with the project application.*

There is not a current federally approved rate agreement negotiated and available.**

*Unless the organization has submitted an indirect rate proposal which encompasses the fringe pool of costs, please provide the organization's benefit package and/or a list of the components/elements that comprise the fringe pool and the cost or percentage of each component/element allocated to the labor costs identified in the Budget Justification (Form EERE 335.1).

**When this option is checked, the entity preparing this form shall submit an indirect rate proposal in the format provided in the Sample Rate Proposal at <http://www1.eere.energy.gov/financing/resources.html>, or a format that provides the same level of information and which will support the rates being proposed for use in the performance of the proposed project.

Additional Explanation (as necessary): Please use this box (or an attachment) to list the elements that comprise your fringe benefits and how they are applied to your base (e.g. Personnel) to arrive at your fringe benefit rate.

c. Travel

Detailed Budget Justification											
c. Travel											

INSTRUCTIONS - PLEASE READ!!!

1. Identify Foreign and Domestic Travel as separate items. Examples of Purpose of Travel are subrecipient site visits, DOE meetings, project mgmt. meetings, etc. Examples of Basis for Estimating Costs are past trips, travel quotes, GSA rates, etc.
2. All listed travel must be necessary for performance of the Statement of Project Objectives.
3. Federal travel regulations are contained within the applicable cost principles for all entity types. Travel costs should remain consistent with travel costs incurred by an organization during normal business operations as a result of the organizations written travel policy. In absence of a written travel policy, organizations must follow the regulations prescribed by the General Services Administration.
4. Each budget period is rounded to the nearest dollar.

SOPO Task #	Purpose of Travel	Depart From	Destination	No. of Days	No. of Travelers	Lodging per Traveler	Flight per Traveler	Vehicle per Traveler	Per Diem Per Traveler	Cost per Trip	Basis for Estimating Costs
Domestic Travel		Budget Period 1									
1	EXAMPLE!!! Visit to PV manufacturer			2	2	\$250	\$500	\$100	\$160	\$2,020	Current GSA rates
										\$0	
										\$0	
										\$0	
										\$0	
	International Travel									\$0	
										\$0	
	Budget Period 1 Total									\$0	
Domestic Travel		Budget Period 2									
										\$0	
										\$0	
										\$0	
										\$0	
	International Travel									\$0	
										\$0	
	Budget Period 2 Total									\$0	
Domestic Travel		Budget Period 3									
										\$0	
										\$0	
										\$0	
										\$0	
	International Travel									\$0	
										\$0	
	Budget Period 3 Total									\$0	
Domestic Travel		Budget Period 4									
										\$0	
										\$0	
										\$0	
										\$0	
	International Travel									\$0	
										\$0	
	Budget Period 4 Total									\$0	
Domestic Travel		Budget Period 5									
										\$0	
										\$0	
										\$0	
										\$0	
	International Travel									\$0	
										\$0	
	Budget Period 5 Total									\$0	
	PROJECT TOTAL									\$0	

c. Travel

SOPO Task #	Purpose of Travel	Depart From	Destination	No. of Days	No. of Travelers	Lodging per Traveler	Flight per Traveler	Vehicle per Traveler	Per Diem Per Traveler	Cost per Trip	Basis for Estimating Costs
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Additional Explanation (as needed):

d. Equipment

SOPO Task #	Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
				\$0		
				\$0		
	Budget Period 5 Total			\$0		
	PROJECT TOTAL			(b) (4)		
Additional Explanation (as needed):						

f. Contractual

Detailed Budget Justification

f. Contractual

INSTRUCTIONS - PLEASE READ!!!

1. The entity completing this form must provide all costs related to subrecipients, vendors, and FFRDC partners in the applicable boxes below.
2. **Subrecipients (partners, sub-awardees):** Subrecipients shall submit a Budget Justification describing all project costs and calculations when their total proposed budget exceeds either (1) \$100,000 or (2) 50% of total award costs. These subrecipient forms may be completed by either the subrecipients themselves or by the preparer of this form. The budget totals on the subrecipient's forms must match the subrecipient entries below. A subrecipient is a legal entity to which a subaward is made, who has performance measured against whether the objectives of the Federal program are met, is responsible for programmatic decision making, must adhere to applicable Federal program compliance requirements, and uses the Federal funds to carry out a program of the organization. All characteristics may not be present and judgment must be used to determine subrecipient vs. vendor status.
3. **Vendors (including contractors):** List all vendors and contractors supplying commercial supplies or services used to support the project. For each Vendor cost with total project costs of \$250,000 or more, a Vendor quote must be provided. A vendor is a legal entity contracted to provide goods and services within normal business operations, provides similar goods or services to many different purchasers, operates in a competitive environment, provides goods or services that are ancillary to the operation of the Federal program, and is not subject to compliance requirements of the Federal program. All characteristics may not be present and judgment must be used to determine subrecipient vs. vendor status.
4. **Federal Funded Research and Development Centers (FFRDCs):** FFRDCs must submit a signed Field Work Proposal during award application. The award recipient may allow the FFRDC to provide this information directly to DOE, however project costs must also be provided below.
5. **Each budget period is rounded to the nearest dollar.**

SOPO Task #	Sub-Recipient Name/Organization	Purpose and Basis of Cost	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Project Total
2,4	EXAMPLE!!! XYZ Corp.	Partner to develop optimal lens for Gen 2 product. Cost estimate based on personnel hours.	\$48,000	\$32,000	\$16,000			\$96,000
								\$0
								\$0
								\$0
								\$0
								\$0
Sub-total			\$0	\$0	\$0	\$0	\$0	\$0

SOPO Task #	Vendor Name/Organization	Purpose and Basis of Cost	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Project Total
6	EXAMPLE!!! ABC Corp.	Vendor for developing robotics to perform lens inspection. Estimate provided by vendor.	\$32,900	\$86,500				\$119,400
								\$0
								\$0
								\$0
								\$0
								\$0
Sub-total			\$0	\$0	\$0	\$0	\$0	\$0

SOPO Task #	FFRDC Name/Organization	Purpose and Basis of Cost	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Project Total
								\$0
								\$0
Sub-total			\$0	\$0	\$0	\$0	\$0	\$0

	Total Contractual	\$0	\$0	\$0	\$0	\$0	\$0
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Additional Explanation (as needed):

g. Construction

Detailed Budget Justification

g. Construction

PLEASE READ!!!

1. Construction, for the purpose of budgeting, is defined as all types of work done on a particular building, including erecting, altering, or remodeling. Construction conducted by the award recipient is entered on this page. Any construction work that is performed by a vendor or subrecipient should be entered under f. Contractual.
2. List all proposed construction below, providing a basis of cost such as engineering estimates, prior construction, etc., and briefly justify its need as it applies to the Statement of Project Objectives.
3. Each budget period is rounded to the nearest dollar.

Overall description of construction activities: Example Only!!! - Build wind turbine platform

SOPO Task #	General Description	Cost	Basis of Cost	Justification of need
Budget Period 1				
3	EXAMPLE ONLY!!! Three days of excavation for platform site	\$28,000	Engineering estimate	Site must be prepared for construction of platform.
	Budget Period 1 Total	\$0		
Budget Period 2				
	Budget Period 2 Total	\$0		
Budget Period 3				
	Budget Period 3 Total	\$0		
Budget Period 4				
	Budget Period 4 Total	\$0		
Budget Period 5				

h. Other

Detailed Budget Justification

h. Other Direct Costs

INSTRUCTIONS - PLEASE READ!!!

1. Other direct costs are direct cost items required for the project which do not fit clearly into other categories. These direct costs must not be included in the indirect costs (for which the indirect rate is being applied for this project). Examples are: tuition, printing costs, etc. which can be directly charged to the project and are not duplicated in indirect costs (overhead costs).
2. Basis of cost are items such as vendor quotes, prior purchases of similar or like items, published price list, etc.
3. Each budget period is rounded to the nearest dollar.

SOPO Task #	General Description and SOPO Task #	Cost	Basis of Cost	Justification of need
Budget Period 1				
5	EXAMPLE!!! Grad student tuition - tasks 1-3	\$16,000	Established UCD costs	Support of graduate students working on project
	Budget Period 1 Total	\$0		
Budget Period 2				
	Budget Period 2 Total	\$0		
Budget Period 3				
	Budget Period 3 Total	\$0		
Budget Period 4				
	Budget Period 4 Total	\$0		
Budget Period 5				

h. Other

SOPO Task #	General Description and SOPO Task #	Cost	Basis of Cost	Justification of need
	Budget Period 5 Total	\$0		
	PROJECT TOTAL	\$0		
Additional Explanation (as needed):				

i. Indirect

Detailed Budget Justification

i. Indirect Costs

INSTRUCTIONS - PLEASE READ

1. Fill out the table below to indicate how your indirect costs are calculated. Use the box below to provide additional explanation regarding your indirect rate calculation.
2. The rates and how they are applied should not be averaged to get one indirect cost percentage. Complex calculations or rates that do not correspond to the below categories should be described/provided in the Additional Explanation section below. If questions exist, consult with your DOE contact before filling out this section.
3. The indirect rate should be applied to both the Federal Share and Recipient Cost Share.
4. Each budget period is rounded to the nearest dollar.

	Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	Total	Explanation of BASE
Provide ONLY Applicable Rates:							
Overhead Rate	0.00%	0.00%	0.00%	0.00%	0.00%		
General & Administrative (G&A)	0.00%	0.00%	0.00%	0.00%	0.00%		
FCCM Rate, if applicable	0.00%	0.00%	0.00%	0.00%	0.00%		
OTHER Indirect Rate	0.00%	0.00%	0.00%	0.00%	0.00%		
Indirect Costs (As Applicable):							
Overhead Costs						\$0	
G&A Costs						\$0	
FCCM Costs, if applicable						\$0	
OTHER Indirect Costs						\$0	
Total indirect costs requested:	\$0	\$0	\$0	\$0	\$0	\$0	

A federally approved indirect rate agreement, or rate proposed (supported and agreed upon by DOE for estimating purposes) is required if reimbursement of indirect costs is requested. Please check (X) one of the options below and provide the requested information if it has not already been provided as requested, or has changed.

- An indirect rate has been approved or negotiated with a federal government agency. A copy of the latest rate agreement is included with this application, and will be provided electronically to the Contracting Officer for this project.
- There is not a current, federally approved rate agreement negotiated and available*.

*When this option is checked, the entity preparing this form shall submit an indirect rate proposal in the format provided by your DOE contact, or a format that provides the same level of information and which will support the rates being proposed for use in performance of the proposed project. Additionally, any non-Federal entity that has never received a negotiated indirect cost rate, except for those non-Federal entities described in Appendix VII to Part 200—States and Local Government and Indian Tribe Indirect Cost Proposals, paragraph D.1.b, may elect to charge a de minimis rate of 10% of modified total direct costs (MTDC) which may be used indefinitely. As described in §200.403 Factors affecting allowability of costs, costs must be consistently charged as either indirect or direct costs, but may not be double charged or inconsistently charged as both. If chosen, this methodology once elected must be used consistently for all Federal awards until such time as a non-Federal entity chooses to negotiate for a rate, which the non-Federal entity may apply to do at any time.

You must provide an explanation (below or in a separate attachment) and show how your indirect cost rate was applied to this budget in order to come up with the indirect costs shown.

Additional Explanation (as needed): *IMPORTANT: Please use this box (or an attachment) to further explain how your total indirect costs were calculated. If the total indirect costs are a cumulative amount of more than one calculation or rate application, the explanation and calculations should identify all rates used, along with the base they were applied to (and how the base was derived), and a total for each (along with grand total).

SF-424A Cost Categories

Applicant Name: CPS Energy Award Number: 0

Budget Information - Non Construction Programs

OMB Approval No. 0348-0044

Section A - Budget Summary		Estimated Unobligated Funds						New or Revised Budget	
Grant Program Function or Activity	Catalog of Federal Domestic Assistance Number	Estimated Unobligated Funds		New or Revised Budget		New or Revised Budget		Total	
		Federal	Non-Federal	Federal	Non-Federal				
(a)	(b)	(c)	(d)	(e)	(f)			(g)	
1. Budget Period 1				(b) (4)	\$0			(b) (4)	
2. Budget Period 2					\$0				
3. Budget Period 3					\$0				
4. Budget Period 4					\$0				
5. Budget Period 5					\$0				
6. Totals				\$60,455,421	\$0			\$60,455,420	

Section B - Budget Categories		Grant Program, Function or Activity					Total (5)
6. Object Class Categories		Budget Period 1	Budget Period 2	Budget Period 3	Budget Period 4	Budget Period 5	
		a. Personnel		(b) (4)			
b. Fringe Benefits		\$0	\$0	\$0	\$0	\$0	\$0
c. Travel		\$0	\$0	\$0	\$0	\$0	\$0
d. Equipment		(b) (4)					
e. Supplies		\$0	\$0	\$0	\$0	\$0	\$0
f. Contractual		\$0	\$0	\$0	\$0	\$0	\$0
g. Construction		\$0	\$0	\$0	\$0	\$0	\$0
h. Other		\$0	\$0	\$0	\$0	\$0	\$0
i. Total Direct Charges (sum of 6a-6h)		(b) (4)					\$60,455,421
j. Indirect Charges		\$0	\$0	\$0	\$0	\$0	\$0
k. Totals (sum of 6i-6j)		(b) (4)					\$60,455,421

7. Program Income \$0

Substation Assumptions

	CPSE GRIP Program					
	Business Model					
	29-Nov-23					
	Substation Assumptions					
	(b) (4)					Units
						\$
+						\$
+						\$
+						\$
+						\$
=						
						Hrs
*						\$/Hr
=						\$
						Hrs
*						\$/Hr
=						\$
						Hrs
*						\$/Hr
=						
+						
+						
+						

Other Attachment File(s)

* Mandatory Other Attachment Filename:

[Add Mandatory Other Attachment](#)

[Delete Mandatory Other Attachment](#)

[View Mandatory Other Attachment](#)

To add more "Other Attachment" attachments, please use the attachment buttons below.

[Add Optional Other Attachment](#)

[Delete Optional Other Attachment](#)

[View Optional Other Attachment](#)

Project/Performance Site Location(s)

Project/Performance Site Primary Location I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

UEI:

* Street1:

Street2:

* City: County:

* State:

Province:

* Country:

* ZIP / Postal Code: * Project/ Performance Site Congressional District:

Project/Performance Site Location 1 I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

UEI:

* Street1:

Street2:

* City: County:

* State:

Province:

* Country:

* ZIP / Postal Code: * Project/ Performance Site Congressional District:

Project/Performance Site Location 2 I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

UEI:

* Street1:

Street2:

* City: County:

* State:

Province:

* Country:

* ZIP / Postal Code: * Project/ Performance Site Congressional District:

Project/Performance Site Location(s)

Project/Performance Site Location 3

I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: CPS Energy

UEI: (b) (4)

* Street1: (b) (4)

Street2:

* City: San Antonio County:

* State: TX: Texas

Province:

* Country: USA: UNITED STATES

* ZIP / Postal Code: (b) (4)-0000

* Project/ Performance Site Congressional District: TX-035

Additional Location(s)

Add Attachment

Delete Attachment

View Attachment

Application for Federal Assistance SF-424		
* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>
* 3. Date Received: <input type="text" value="03/17/2023"/>	4. Applicant Identifier: <input type="text" value="CPS Energy"/>	
5a. Federal Entity Identifier: <input type="text" value="N6AVFBEGT9K3"/>	5b. Federal Award Identifier: <input type="text" value="N6AVFBEGT9K3"/>	
State Use Only:		
6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text" value="TX"/>	
8. APPLICANT INFORMATION:		
* a. Legal Name: <input type="text" value="CPS Energy"/>		
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="74-6002071"/>	* c. UEI: <input type="text" value="N6AVFBEGT9K3"/>	
d. Address:		
* Street1: <input type="text" value="500 MCCULLOUGH AVE."/>	Street2: <input type="text"/>	
* City: <input type="text" value="SAN ANTONIO"/>	County/Parish: <input type="text" value="BEXAR"/>	
* State: <input type="text" value="TX: Texas"/>	Province: <input type="text"/>	
* Country: <input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code: <input type="text" value="78215-2104"/>	
e. Organizational Unit:		
Department Name: <input type="text"/>	Division Name: <input type="text"/>	
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: <input type="text" value="Mr."/>	* First Name: <input type="text" value="David"/>	
Middle Name: <input type="text"/>	* Last Name: <input type="text" value="Hinkson"/>	
Suffix: <input type="text"/>	Title: <input type="text" value="Director, Senior Counsel"/>	
Organizational Affiliation: <input type="text"/>		
* Telephone Number: <input type="text" value="(210) 238-4838"/>	Fax Number: <input type="text"/>	
* Email: <input type="text" value="dhinkson@cpsenergy.com"/>		

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

National Energy Technology Laboratory

11. Catalog of Federal Domestic Assistance Number:

81.254

CFDA Title:

Grid Infrastructure Deployment and Resilience

*** 12. Funding Opportunity Number:**

DE-FOA-0002740

* Title:

BIL Grid Resilience and Innovation Partnerships (GRIP)

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

1250-Ques 14 Areas Affected by Project FINA

Add Attachment

Delete Attachment

View Attachment

*** 15. Descriptive Title of Applicant's Project:**

The San Antonio Community Energy Resiliency Program

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="30,200,000.00"/>
* b. Applicant	<input type="text" value="30,200,000.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="60,400,000.00"/>

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative: * Date Signed:

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2025

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. DE-FOA-0002740	81.254	\$ 30,227,711.00	\$ 30,227,711.00	\$	\$	\$ 60,455,422.00
2.						
3.						
4.						
5. Totals		\$ 30,227,711.00	\$ 30,227,711.00	\$	\$	\$ 60,455,422.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	DE-FOA-0002740				
a. Personnel	\$ (b) (4)	\$	\$	\$	\$
b. Fringe Benefits					
c. Travel					
d. Equipment	(b) (4)				
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)	60,455,421.00				\$ 60,455,421.00
j. Indirect Charges					\$
k. TOTALS (sum of 6i and 6j)	\$ 60,455,421.00	\$	\$	\$	\$ 60,455,421.00
7. Program Income	\$	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8.	DE-FOA-0002740	\$ (b) (4)	\$	\$	\$
9.					
10.					
11.					
12. TOTAL (sum of lines 8-11)		\$ (b) (4)	\$	\$	\$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ (b) (4)	\$	\$	\$	\$
14. Non-Federal	\$				
15. TOTAL (sum of lines 13 and 14)	\$ (b) (4)	\$	\$	\$	\$

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program		FUTURE FUNDING PERIODS (YEARS)			
		(b)First	(c) Second	(d) Third	(e) Fourth
16.	DE-FOA-0002740	\$ (b) (4)	\$	\$	\$
17.					
18.					
19.					
20. TOTAL (sum of lines 16 - 19)		\$ (b) (4)	\$	\$	\$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:		22. Indirect Charges:	
23. Remarks:			

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

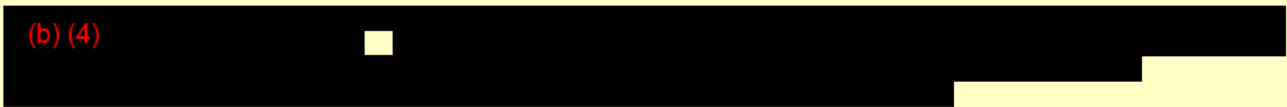
I. INSTRUCTIONS

The proposer shall prepare this Environmental Questionnaire (EQ) as accurately and completely as possible. Supporting information can be provided as attachments. The proposer must identify the location of the project and specifically describe the activities that would occur at that location. The proposer must provide specific information and quantities, regarding air emissions, wastewater discharges, solid wastes, etc., to facilitate the necessary review. In addition, the proposer must submit with this EQ a FINAL copy of the project's statement of work (SOW) or statement of project objective (SOPO) that will be used in the contract/agreement between the proposer and the U.S Department of Energy (DOE).

II. QUESTIONNAIRE

A. PROJECT SUMMARY

1. Solicitation/Project Number: _____ Proposer: CPS Energy
2. This Environmental Questionnaire pertains to a: Recipient or Prime Contractor Sub-recipient or Subcontractor
3. Principal Investigator: _____ Telephone Number: _____
4. Project Title: Community Energy Resiliency Program
5. Expected Project Duration: 60 months
6. Location of Activities covered by this Environmental Questionnaire: (City/Township, County, State):
San Antonio, Texas
7. List the full scope of activities planned (only for the location that is the subject of this Environmental Questionnaire).

(b) (4) 

8. List all other locations where work would be performed by the primary contractor of the project and subcontractor(s). Each of the following must have an individual Environmental Questionnaire.

Subcontractor or sub-recipient	Location of activities for this project
TBD based on award of grant	

9. Identify and select the checkbox with the predominant project work activities under Group A, B, or C

Group A

- Routine administrative, procurement, training, and personnel actions. Contract activities/awards for management support, financial assistance, and technical services in support of agency business, programs, projects, and goals. Literature searches and information gathering, material inventories, property surveys; data analysis, computer modeling, analytical reviews, technical summary, conceptual design, feasibility studies, document preparation, data dissemination, and paper studies. Technical assistance including financial planning, assistance, classroom training, public meetings, management training, survey participation, academic contribution, technical consultation, and stakeholders surveys. Workshop and conference planning, preparation, and implementation which may involve promoting energy efficiency, renewable energy, and energy conservation.

STOP! If all work activities related to this project can be classified and described within categories under Group A, proceed directly to Section III CERTIFICATION BY PROPOSER. No additional information is required. If project work activities are described in either Group(s) B or C; then continue filling out questionnaire.

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

Group B

- Laboratory Scale Research, Bench Scale Research, Pilot Scale Research, Proof-of-Concept Scale Research, or Field Test Research. Work DOES NOT involve new building/facilities construction and site excavation/groundbreaking activities. This work typically involves routine operation of existing laboratories, commercial buildings/properties, offices and homes, project test facilities, factories/power plants, vehicles test stands and components, refueling facilities, utility systems, or other existing structures/facilities. Work will NOT involve major change in facilities missions and operations, land use planning, new/modified regulatory/operating permit requirements. Includes work specific to routine DOE Site operations and Lab research work activities, but NOT building construction and site preparation. DOE work typically involves laboratory facilities and lab equipment operations, buildings and grounds management activities; and buildings and facilities maintenance, repairs, reconfiguration, remodeling, equipment use and replacement.

Group C

- Pilot Test Facilities Construction, Pilot Scale Research, Field Scale Demonstration, or Commercial Scale Application. Work typically involves facility construction, site preparation/excavation/groundbreaking, and/or demolition. This work would include construction, retrofit, replacement, and/or major modifications of laboratories, test facilities, energy system prototypes, and power generation infrastructure. Work may also involve construction and maintenance of utilities system right-of-ways, roads, vehicle test facilities, commercial buildings/properties, fuel refinery/mixing facilities, refueling facility, power plants, underground wells, and pipelines, and other types of energy research related facilities. This work may require new or modified regulatory permits, environmental sampling and monitoring requirements, master planning, public involvement, and environmental impact review. Includes work specific to DOE Site Operations and Lab operation activities involving building and facilities construction, replacement, decommissioning/demolition, site preparation, land use changes, or change in research facilities mission or operations.

B. PROPOSED PROJECT ALTERNATIVES

1. If applicable, list any project alternatives considered to achieve the project objectives.

C. PROJECT LOCATION

1. Provide a brief description of the project location (physical location, surrounding area, adjacent structures).

San Antonio CPS Energy substations: St. Hedwig & Valley road.

2. Attach a project site location map of the project work area.

See attached

D. ENVIRONMENTAL IMPACTS

NEPA procedures require evaluations of possible effects (including land use, energy resource use, natural, historic and cultural resources, and pollutants) from proposed projects on the environment.

1. Land Use

- a. Characterize present land use where the proposed project would be located.

- | | | | |
|---|--|--------------------------------------|--|
| <input checked="" type="checkbox"/> Urban | <input type="checkbox"/> Industrial | <input type="checkbox"/> Commercial | <input type="checkbox"/> Agricultural |
| <input type="checkbox"/> Suburban | <input type="checkbox"/> Rural | <input type="checkbox"/> Residential | <input type="checkbox"/> Research Facilities |
| <input type="checkbox"/> Forest | <input type="checkbox"/> University Campus | <input type="checkbox"/> Other: | |

- b. Identify the total size of the facility, structure, or system and what portion would be used for the proposed project.

TBD

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

- c. Describe planned construction, installation, and/or demolition activities, i.e., roads, utilities system right-of-ways, parking lots, buildings, laboratories, storage tanks, fueling facilities, underground wells, pipelines, or other structures.

No construction would be anticipated for this project.

Construction required to install BESS that includes duct banks, slabs and misc. cabling.

- d. Describe how land use would be affected by operational activities associated with the proposed project.

No land areas would be affected.

The land used will be CPS Energy owned Substation properties

- e. Describe any plans to reclaim areas that would be affected by the proposed project.

No land areas would be affected.

Not required, since it is a long term use substation.

- f. Would the proposed project affect any unique or unusual landforms (e.g., cliffs, waterfalls, etc.)?

No Yes (describe)

- g. Would the proposed project be located in or near local, state, or federal parks; forests; monuments; scenic waterways; wilderness; recreation facilities; or tribal lands? No Yes (describe)

2. Construction Activities and/or Operation

- a. Identify project structure(s), power line(s), pipeline(s), utilities system(s), right-of-way(s) or road(s) that will be constructed and clearly mark them on a project site map or topographic map as appropriate. None

See attachments. Additional information will be provided, during the planning phase.

- b. Would the proposed project require the construction of waste pits or settling ponds?

No Yes (describe and identify location, and estimate surface area disturbed)

- c. Would the proposed project affect any existing body of water? No Yes (describe)

- d. Would the proposed project impact a floodplain or wetland? No Yes (describe)

- e. Would the proposed project potentially cause runoff/sedimentation/erosion? No Yes (describe)

It is possible during construction and will follow best management practices i.e., install silt fences. The expected area will be less than 1 acre.

- f. Would the proposed project include activities located on perma-frost, near fault zones, or involve fracturing, well drilling, geologic stimulation, sequestration, active seismic data collection, and/or deepwater operations?

No Yes (describe)

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

- g. Would the proposed project involve any of the following: nanotechnology; recombinant DNA or genetic engineering; facility decommissioning or disposition of equipment/materials; or management of radioactive wastes/materials?
 No Yes (describe)

3. Biological Resources

- a. Identify any State or Federally listed endangered or threatened plant or animal species potentially affected by the proposed project.

None

- b. Would any designated critical habitat be affected by the proposed project? No Yes (describe)

- c. Describe any impacts that construction would have on any other types of sensitive or unique habitats.

No planned construction No habitats None Impact (describe)

- d. Would any foreign substances/materials be introduced into ground or surface waters, soil, or other earth/geologic resource because of project activities? How would these foreign substances/materials affect the water, soil, biota, and geologic resources? No Yes (describe)

- e. Would any migratory animal corridors be impacted or disrupted by the proposed project? No Yes (describe)

4. Socioeconomic and Infrastructure Conditions

- a. Would local socio-economic changes result from the proposed project? No Yes (describe)

Improved electric reliability & resiliency which could promote economic development.

- b. Would the proposed project generate increased traffic use of roads through local neighborhoods, urban or rural areas?

No Yes (describe)

- c. Would the proposed project require new transportation access (roads, rail, etc.)? Describe location, impacts, costs.

No Yes (describe)

- d. Would the proposed project create a significant increase in local energy usage? No Yes (describe)

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

5. Historical/Cultural Resources

a. Describe any historical, archaeological, or cultural sites in the vicinity of the proposed project; note any sites included on the National Register of Historic Places. None

b. Would construction or operational activities planned under the proposed project disturb any historical, archaeological, or cultural sites? No planned construction No historic sites Yes (describe) No Impact (discuss)

c. Has the State Historic Preservation Office been contacted with regard to this project? No Yes (describe)

CPS Energy coordinates with the State Historic Preservation Office with a memorandum of understanding

d. Would the proposed project interfere with visual resources (e.g., eliminate scenic views) or alter the present landscape? No Yes (describe)

e. Would the proposed project be located on or adjacent to tribal lands, lands considered to be sacred, or lands used for traditional purposes? Describe any known tribal sensitivities for the proposed project area.

Not adjacent to any tribal lands

6. Atmospheric Conditions/Air Quality

a. Identify air quality conditions in the immediate vicinity of the proposed project with regard to attainment of National Ambient Air Quality Standards (NAAQS). This information is available under the Green Book Non-Attainment Areas for Criteria Pollutants located at <http://www.epa.gov/air/oaqps/greenbk/astate.html>

	Attainment	Non-Attainment
O ₃ - 1 Hour	<input checked="" type="checkbox"/>	<input type="checkbox"/>
O ₃ - 8 Hour	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SO _x	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PM - 2.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PM - 10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CO	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NO ₂	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lead	<input checked="" type="checkbox"/>	<input type="checkbox"/>

b. Would proposed project require issuance of new or modified local, state, or federal air permits to perform project related work and activities? No Yes (describe)

c. Would the proposed project be in compliance with local and state air quality requirements? Yes
 If not, please explain.

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

- d. Would the proposed project be classified as either a New Source or a major modification to an existing source?
 No Yes (describe)

[Yellowed area for response to question d.]

- e. What types of air emissions, including fugitive emissions, would be anticipated from the proposed project, and what would be the maximum annual rate of emissions for the project?

	Maximum per Year	Total for Project
<input type="checkbox"/> SO _x		
<input type="checkbox"/> NO _x		
<input type="checkbox"/> PM - 2.5		
<input type="checkbox"/> PM - 10		
<input type="checkbox"/> CO		
<input type="checkbox"/> CO ₂		
<input type="checkbox"/> Lead		
<input type="checkbox"/> H ₂ S		
<input type="checkbox"/> Organic solvent vapors or other volatile organic compounds--List:		
[Yellowed area for response]		
<input type="checkbox"/> Hazardous air pollutants -- List:		
[Yellowed area for response]		
<input type="checkbox"/> Other -- List:		
[Yellowed area for response]		
<input type="checkbox"/> None		

- f. Would any types of emission control or particulate collection devices be used?
 No Yes (describe, including collection efficiencies)

[Yellowed area for response to question f.]

- g. How would emissions be vented?

Air emissions are vented to atmosphere.

7. Hydrologic Conditions/Water Quality

- a. What nearby water bodies may be affected by the proposed project? Provide distance(s) from the project site.

[Yellowed area for response to question 7a.]

- b. What sources would supply potable and process water for the proposed project?

[Yellowed area for response to question 7b.]

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

c. Quantify the wastewater that would be generated by the proposed project.

	Gallons/day	Gallons/year
<input type="checkbox"/> Non-contact cooling water		
<input type="checkbox"/> Process water		
<input type="checkbox"/> Sanitary		
<input type="checkbox"/> Other -- describe:		
<input type="checkbox"/> None		

d. What would be the major components of each type of wastewater (e.g., coal fines)? No wastewater produced

e. Identify the local treatment facility that would receive wastewater from the proposed project.

No discharges to local treatment facility

f. Describe how wastewater would be collected and treated. No wastewater produced

g. Would any run-off or leachates be produced from storage piles or waste disposal sites? No Yes (describe source)

h. Would project require issuance of new or modified water permits to perform project work or site development activities?

No Yes (describe)

i. Where would wastewater effluents from the proposed project be discharged? No wastewater produced

j. Would the proposed project be permitted to discharge effluents into an existing body of water?

No Yes (describe water use and effluent impact)

k. Would a new or modified National Pollutant Discharge Elimination System (NPDES) permit be required?

No Yes (describe)

l. Would the proposed project adversely affect the quality or movement of groundwater? No Yes (describe)

ENVIRONMENTAL QUESTIONNAIRE

m. Would the proposed project require issuance of an [Underground Injection Control \(UIC\)](#) permit?

No Yes (describe)

n. Would the proposed project be located in or near a wellhead protection area, drinking water protection area, or above a sole source aquifer or underground source of drinking water (USDW)?

No Yes (describe)

8. Solid and Hazardous Wastes

a. Identify and estimate wastes that would be generated from the project. Solid wastes are defined as any solid, liquid, semi-solid, or contained gaseous material that is discarded, has served its intended purpose, or is a manufacturing or mining by-product (See [EPA Municipal Solid Waste](#) and [Municipal Solid Waste by State](#)).

	Annual Quantity
<input type="checkbox"/> Municipal solid waste (e.g., paper, plastic, etc.)	
<input type="checkbox"/> Coal or coal by-products	
<input checked="" type="checkbox"/> Other -- Identify: TBD during site assessment	
<input type="checkbox"/> Hazardous waste – Identify:	
<input type="checkbox"/> None	

b. Would project require issuance of new or modified solid waste and/or hazardous waste related permits to perform project work activities? No Yes (explain)

c. How and where would solid waste disposal be accomplished?

- None generated
 On-site (identify and describe location)
 Off-site (identify location and describe facility and treatment)

TBD during planning phase

d. How would wastes for disposal be transported?

TBD during planning phase

e. Describe hazardous wastes that would be generated, treated, handled, or stored under this project. Hazardous waste information can be found at [EPA Hazardous Waste](#) website. None

f. How would hazardous or toxic waste be collected and stored? None used or produced

TBD during planning phase

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

- g. If hazardous wastes would require off-site disposal, have arrangements been made with a certified TSD (Treatment, Storage, and Disposal) facility?
 Not required Arrangements not yet made Arrangements made with a certified TSD facility (identify)

TBD during planning phase

9. Health/Safety Factors

- a. Identify hazardous or toxic materials that would be used in the proposed project.
 None Hazardous or toxic materials that would be used (identify):

TBD during planning phase. Possible for PCBs and mineral oils

- b. Describe the potential impacts of this project's hazardous materials on human health and the environment.
 None

TBD during planning phase

- c. Would there be any special physical hazards or health risks associated with the project? No Yes (describe)

TBD during planning phase

- d. Does a worker safety program exist at the location of the proposed project? No Yes (describe)

CPS Energy has a formalized worker safety program that will be in effect for this project.

- e. Would additional safety training be necessary for any new laboratory, equipment, or processes involved with the project?
 No Yes (describe)

- f. Describe any increases in ambient noise levels to the public from construction and operational activities.
 None Increase in ambient noise level (describe)

TBD during planning phase. Only during construction. No ongoing increase in ambient noise levels

- g. Would project construction result in the removal of natural or other barriers that act as noise screens?

No construction planned No Yes (describe)

- h. Would hearing protection be required for workers? No Yes (describe)

As a result of hand tools and material handling via fork lifts, cranes, etc.

10. Environmental Restoration and/or Waste Management

- a. Would the proposed project include CERCLA removals or similar actions under RCRA or other authorities?
 No Yes (describe)

TBD during planning phase

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

- b. Would the proposed project include siting, construction, and operation of temporary pilot-scale waste collection and treatment facilities or pilot-scale waste stabilization and containment facilities? No Yes (describe)

- c. Would the proposed project involve operations of environmental monitoring and control systems?
 No Yes (describe)

- d. Would the proposed project involve siting, construction, operation, or decommissioning of a facility for storing packaged hazardous waste for 90 days or less? No Yes (describe)

E. REGULATORY COMPLIANCE

1. For the following laws, describe any existing permits, new or modified permits, manifests, responsible authorities or agencies, contacts, etc., that would be required for the proposed project

- a. Resource Conservation and Recovery Act ([RCRA](#)): None New Required Modification Required
Describe:

- b. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
 None New Required Modification Required
Describe:

- c. Toxic Substance Control Act (TSCA): None New Required Modification Required
Describe:

TBD during planning phase

- d. Clean Water Act (CWA): None New Required Modification Required
Describe:

- e. Underground Storage Tank Control Program (UST): None New Required Modification Required
Describe:

- f. Underground Injection Control Program (UIC): None New Required Modification Required
Describe:

- g. Clean Air Act (CAA): None New Required Modification Required
Describe:

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ENVIRONMENTAL QUESTIONNAIRE

h. Endangered Species Act (ESA): None New Required Modification Required
Describe:

i. [Floodplains and Wetlands Regulations](#): None New Required Modification Required
Describe:

j. Fish and Wildlife Coordination Act (FWCA): None New Required Modification Required
Describe:

k. National Historic Preservation Act (NHPA): None New Required Modification Required
Describe:

l. Coastal Zone Management Act (CZMA): None New Required Modification Required
Describe:

2. Identify any other environmental laws and regulations (Federal, state, and local) for which compliance would be necessary for this project, and describe the permits, manifests, and contacts that would be required.

F. DESCRIBE ANY ISSUES THAT WOULD GENERATE PUBLIC CONTROVERSY REGARDING THE PROPOSED PROJECT. None

G. WOULD THE PROPOSED PROJECT PRODUCE ADDITIONAL DEVELOPMENT, OR ARE OTHER MAJOR DEVELOPMENTS PLANNED OR UNDERWAY, IN THE PROJECT AREA?

No Yes (describe)

H. SUMMARIZE THE SIGNIFICANT IMPACTS THAT WOULD RESULT FROM THE PROPOSED PROJECT.

None (provide supporting detail) Significant impacts (describe)

U.S. DEPARTMENT OF ENERGY

ENVIRONMENTAL QUESTIONNAIRE

I. **PROVIDE A DESCRIPTION OF HOW THE PROJECT WOULD BE DECOMMISSIONED, INCLUDING THE DISPOSITION OF EQUIPMENT AND MATERIALS.**

TBD during planning phase

III. **CERTIFICATION BY PROPOSER**

I hereby certify that the information provided herein is current, accurate, and complete as of the date shown immediately below.

Signature: Maldonado, Ricardo (Corporate) Digitally signed by Maldonado, Ricardo (Corporate)
Date: 2023.03.16 06:13:32 -05'00'

Date (mm/dd/yyyy): 03/16/2023

Typed Name: Ricardo Maldonado

Title: VP - T&D Engineering & Grid Transformation

Organization: CPS Energy

IV. **REVIEW AND APPROVAL BY DOE**

I hereby certify that I have reviewed the information provided in this questionnaire, have determined that all questions have been appropriately answered, and judge the responses to be consistent with the efforts proposed.

DOE Project Manager

Signature:

Date (mm/dd/yyyy):

Typed Name:

Department of Energy (DOE)
Grid Deployment Office (GDO)
Office of Clean Energy Demonstrations (OCED)
BIL – Grid Resilience and Innovation Partnerships (GRIP)

Funding Opportunity Announcement (FOA) Number: DE-FOA-0002740

FOA Type: Initial

Assistance Listing Number: 81.254



CPS Energy

CPS Energy Territory, San Antonio, TX

Points of Contact:

Business: Guillermo De Hoyos

Technical: George Tamez

CPS Energy Community Energy Resiliency Program

Topic Area 2: Smart Grid Grants (40107)

Technical Volume

COVER PAGE

Project Overview

Background:

Established in 1860, CPS Energy (CPSE) is the nation's largest public power, natural gas, and electric company, serving approximately 907,526 electric customers and 373,998 gas customers. Acquired by the City of San Antonio in 1942, CPSE has been serving the community for 162 years. The electric retail service area (1,515 sq. miles) includes Bexar County and small portions of adjacent counties: Atascosa, Bandera, Comal, Guadalupe, Kendall, Medina and Wilson. CPSE's mission is to serve our community through reliable, competitively priced and sustainable energy services in an equitable manner.

The City of San Antonio is determined to achieve carbon neutrality by 2050, and it continues to experience rapid population growth, projected to increase by 40% by 2032. This growth will result in an additional 10.8 GW of summer capacity for ERCOT, and an anticipated 315 GW of project load growth will be required by new data centers in the coming years. CPSE projects 100,000 solar systems installations. The increasing adoption of electric vehicles (EVs) is expected to create a demand for new charging infrastructure and additional load for the grid, with an estimated 60,000 residential and 20,000 commercial vehicles by 2032.

To better prepare for the energy transition, CPSE finalized its Long-Range Plan in 2022 that provides the roadmap and detailed plan for grid optimization and resiliency for both transmission and distribution systems infrastructure. (b) (4)

[Redacted]

- Fault Location Isolation and Service Restoration (FLISR) – FLISR improves reliability of the distribution system by isolating the part of the circuit that experiences a problem/fault and quickly restores service to customers connected on unaffected portion of the feeder automatically or with grid operator intervention. (b) (4)

[Redacted]

- Volt VAR Optimization (VVO) – Utilizing VVO schemes, CPSE can reduce voltages on enabled circuits to realize power reduction that will lower electric demand during peak-load conditions and minimize electrical losses. (b) (4)

[Redacted]

- Microgrids are networks of distributed energy resources, such as solar panels, wind turbines, energy storage systems, and backup generators, that are interconnected and managed to optimize energy production and usage. (b) (4)

[Redacted]

(b) (4)

- Grid Modernization – CPSE has embarked on a 10-year roadmap to modernize and enhance the Operational Technology (OT) landscape. (b) (4)

CPSE participated in a project called "Designing Resilient Communities" led by Sandia National Laboratories and funded by the US Department of Energy's Grid Modernization Laboratory Consortium. The project aimed to develop a framework for community resilience planning through grid modernization. The goal was to align community resilience and grid investment planning by using a consequence-based approach. The framework will be refined and analyzed for widespread adoption among electric utilities, municipal governments, and energy regulators. The report from the study is expected to be published in the coming months.

Since 2010, CPSE has collaborated with the University of Texas: San Antonio (UTSA) for research and development related to new technologies, business models, and customer response mechanisms. UTSA is engaged in renewable and alternative energy research and has established the TSERI institute for research in energy generation, transmission, and storage. To-date far, CPSE has invested \$12M in the program.

Project Goal:

With the significant growth in load and DER demand, CPSE needs to deliver robust grid modernization and resiliency that will be required to address the accelerating changes on the horizon. CPSE believes that one way to address the change is to build a "Grid of the Future" (GoF).

(b) (4)

-

[REDACTED]

■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

DOE Impact

CPSE has been planning on the implementation of Grid of Future (GoF) projects for some time but has been focused on other key underlying needs over the last 4 years; including the numerous investments described earlier. These GoF foundational needs have laid the development and implementation, but they absorb significant capital and impact CPSE customer rates if not managed prudently. CPSE has finalized the Long-Range Plan in 2022 and already spending millions towards GoF. However, the investments haven't equitably impacted the areas in DAC. To provide equitably, the potential impacts on customer rates will inevitably impact the pace at which CPSE can implement the investments required to ultimately complete the Grid Modernization Roadmap.

The significance of the DOE’s funding in enhancing grid reliability in DAC areas cannot be overstated, as utilities' investments are predominantly concentrated on expanding loads and upgrading the most problematic feeders, resulting in limited resources for improving the infrastructure in underserved areas. These communities often experience recurrent power outages and unstable electricity supply due to outdated and insufficient grid infrastructure, which can negatively impact their health, safety, and economic well-being. The availability of DOE funding would considerably expedite the implementation of the Community Energy Resiliency Program (CER) with minimal impacts on CPSE's capital structure and electricity rates. In the absence of DOE grant funding, CPSE would require additional time to execute these investments, and CPSE would not be adequately positioned to support the community's desire for clean power access and transition to electric vehicles, nor would they be as well-equipped to rapidly mitigate potential significant power disruptions stemming from the enhancements to grid resilience that these investments would provide. By providing financial support for upgrading the grid infrastructure in disadvantaged communities, the Department of Energy can ensure that these communities have access to dependable and sustainable energy, fostering a more equitable and fair energy system for all.

Community Benefits Plan:

(b) (4)

[Redacted text block]

The Program will bring additional community benefits through contracting and supplier opportunities available to all businesses including local and small, minority, women, and veteran owned business (SMWV). In addition, CPSE, working with its local community partners, will establish an education partnership with the San Antonio Museum of Science and Technology to showcase Grid of the Future technologies in operation through a K-12 science and technology curriculum for school-aged museum visitors several education partnerships.

The Program will further the objectives of the City of San Antonio’s (CoSA) [SA Climate Ready Climate Action and Adaptation Plan](#) that has a major focus on climate mitigation, adaptation and resilience, with a priority placed on equity. In fact, the target areas align closely with CoSA’s [Equity Atlas](#) that identifies neighborhoods with high racial inequity and that also have been identified as communities with a high energy burden.

CPS Energy will be collaborating with San Antonio Water System (SAWS) to provide resilient support to the SAWS Steven M. Clouse Water Recycling Center (SMCWRC) in San Antonio. The SMCWRC is SAWS Flagship Wastewater Treatment Facility is the largest direct use recycle system in the United States. The substation associated with this facility also provides energy to SAWS'

(b) (4)

[Redacted]

2. FOA goals to “prevent faults that may lead to wildfires or other system disturbances”

(b) (4)

[Redacted]

3. FOA goals to “facilitate the aggregation and integration (edge-computing) of electric vehicles and other grid-edge devices or electrified loads”

(b) (4)

[Redacted]

With the rise of EVs, it is crucial to have a system that can efficiently manage the energy demand of these vehicles. (b) (4)

[Redacted]

(b) (4)

4. FOA goal to “Catalyze and leverage private sector and non-federal public capital for impactful technology and infrastructure deployment” by leveraging the technology development of its key technology partners along with its own investment.

The program is focused on using new, but commercially available technologies developed by our technology partners in more innovative ways rather than depending on DOE capital to develop newly invented products. Thus, CPSE will not only leverage innovative private sector technology but will also provide impactful infrastructure enhancements to the baseline investments already made.

5. FOA goal to “Advance community benefits” via the capabilities identified in the Community Benefits Plan described above.

Feasibility:

(b) (4)

[Redacted text block]

Finally, CPSE has a highly skilled workforce and top tier partners to support the implementation and the ongoing operation of the proposed technologies in this CER Program, including the following key resources and skillsets:

- Engineering
 - Substation engineering

- Substation Design and Construction
- Protection Engineering
- Distribution Engineering
- Automation technicians
- Distribution planning and automation
- Operations
 - Control Center and System operations
 - Networking and Communications
 - Distribution operations
 - Field Operations and installation resources
- Change Management and IT/OT Integration

Innovation and Impacts:

1. (b) (4) [Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

2. Battery Storage at Distribution Substation

- (b) (4) [Redacted]
[Redacted]
[Redacted]

[Redacted]

- (b) (4) [Redacted]
- [Redacted]

[Redacted]

[Redacted]

3. [Redacted]

[Redacted]

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

- (b) (4)

4. Support for State, local, Tribal, community and regional resilience

CPSE's service territory is not only affected by Winter Storm Uri but also frequently experiences flash floods and extreme winds. In addition to the challenge of load growth, CPSE is increasingly impacted by adverse weather conditions. San Antonio has recently faced unprecedented heat waves and drought, resulting in the driest year in 128 years. The winter demand and supply imbalances have also become a significant concern, as evidenced by the recent Winter Storm Uri. As a result, CPSE's SAIDI metrics have shown a 50% increase compared to the five-year average. To ensure a reliable and resilient grid while fulfilling customer expectations and community obligations, CPSE must prepare for this changing landscape. The CER Program can potentially address all of these resiliency concerns for CPSE's customers, particularly those in disadvantaged communities (DAC).

(b) (4)

[Redacted]

[Redacted]

[Redacted]. This falls in line with the goals of the largest city in the Company's service territory, the City of San Antonio, (COSA) which has explicitly stated its desire to increase its citizens' access to rooftop solar and become carbon neutral by 2050. The CER Program will serve to efficiently support this goal for COSA as well as all other citizens in the CPSE service territory.

5. Reducing innovative technology risk; achieving further deployment at scale; and additional private sector investments

The CER Program is built on reducing risk through using proven technologies and commercially available products as its foundation. That said, the technologies targeted are state of the art, leading edge capabilities that will expand CPSE's grid awareness, create the tools for enhanced grid planning, and provide the grid controls necessary to ensure improved grid resiliency.

Although most of the technology to be utilized in the CER Program is commercially available, some may require further development, customization, and integration. To refine and develop these technologies, CPSE will work closely with private sector vendors and consultants. Through this engagement, the CER Program will serve as a catalyst for private sector investments to leverage CPSE's experience and successes with other energy and non-energy utilities. CPSE frequently participates in national conferences to share and collaborate with other utilities, discussing lessons learned and results. (b) (4)

[Redacted]

Priority Focus Areas

The CER Program directly supports the priority investments of the FOA as follows:

1. FOA priority of "Improving the visibility of the electrical system to grid operators, to help quickly rebalance the electrical system with autonomous controls, through data analytics, software, and sensors."

(b) (4)

2. FOA priority of "Enhance secure communication and data flow between distribution components, through investments in optical ground wire, dark fiber, operational fiber, and wireless broadband communications networks."

(b) (4)

(b) (4)

3. FOA priority of “Aggregation and integration of distributed energy resources and other “gridedge” devices to provide system benefits, such as renewable energy resources, electric vehicle charging infrastructure, vehicle-to-grid technologies and capabilities, and smart building technologies.”

(b) (4)

4. FOA priority of “Enhancing interoperability and data architecture of systems that support two-way flow of both electric power and localized analytics to provide information between electricity system operators and consumers.”

(b) (4)

5. FOA priority to “Anticipate and mitigate the impacts of extreme weather or natural disaster on grid resiliency including investments to increase the ability to redirect or shut of power to minimize blackouts, prevent wildfires, and avoid further damage.”

(b) (4)

Workplan

Project Objectives:

(b) (4)

[Redacted]

[Redacted]. The chosen deployment site prioritizes disadvantaged communities and promotes customer and partner participation in the grid of the future.

Technical Scope Summary:

The scope of work for the Program is based on four (4) interdependent initiatives, each with key decision points and project milestones (described in more detail below): These projects can be summarized as follows:

1. (b) (4)

[Redacted]

2. [Redacted]

[Redacted]

(b) (4)

[Redacted]

WBS and Task Description Summary, Milestone Summary, and Go/No Go Decision Points:

The detailed Project Plan for the CER Program includes specific tasks, subtasks and milestones to effectively manage each of the four initiatives that make up the Program. These four initiatives have been grouped together in three phases – Planning Phase, Execution Phase and Monitoring Phase.

The project WBS and task descriptions for each of the phases are as follows:

1. Planning Phase.

(b) (4)

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

(b) (4)

[Redacted text block]

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- [Redacted list item 1]
- [Redacted list item 2]
- [Redacted list item 3]
- [Redacted list item 4]

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- [Redacted list item 1]
- [Redacted list item 2]
- [Redacted list item 3]
- [Redacted list item 4]

[Redacted section header]

- [Redacted list item 1]
- [Redacted list item 2]
- [Redacted list item 3]
- [Redacted list item 4]

Project Schedule:

(b) (4)

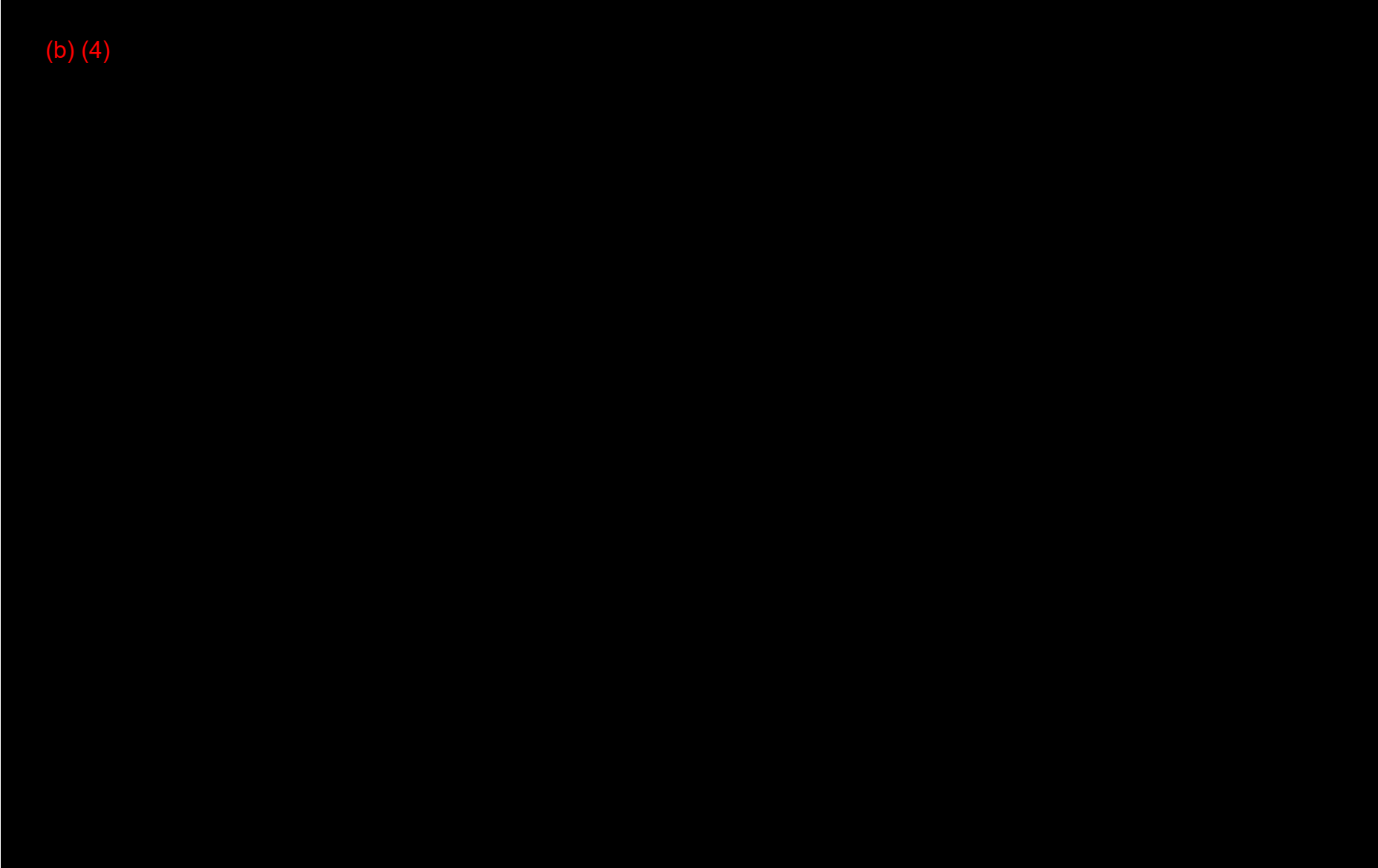


FIGURE 1: PROJECT SCHEDULE



Buy America Requirements:

CPSE intends to comply with as many of the Buy America requirements as possible. However, out of an abundance of caution, CPSE submits this waiver request due to the continued supply chain and procurement difficulties created by the pandemic. (b) (4)

Project Management:

(b) (4) has developed a mature delivery methodology to execute and deliver the scope of the CER program defined by each phase. These methods provide the structured framework and methods for all of the project activities. The project and program management will use the framework to meet the following goals and objectives for the CPSE implementation:

- Manage risks and issues to meet the business objectives and stakeholder expectations
- Manage stakeholder participation and involvement so that they perform their tasks in a coordinated and timely manner (for example, reviews and signoff)
- Balance scope, quality, effort, schedule, budget, and risks
- Identify the appropriate solution and risk mitigation strategies using standard, documented decision and resolution processes when the projected impact of an issue or a risk exceeds the threshold
- Identify the appropriate change request process
- Confirm methods, standards, and approaches are followed
- Facilitate deliverable transition between lifecycle stages and confirm key deliverables are effectively transitioned
- Transfer responsibility for ongoing maintenance to the appropriate entity

The Project Manager will provide point-in-time status, outlook of cost, schedule adherence report, and provide risk and mitigation plans. Additionally, the Project Manager will work with the CER Program team to deliver the program against schedule, cost, and business continuity and benefit realization objectives. At a high level, we are proposing a structure that has these attributes:

- Joint project leadership by CPSE, (b) (4) and Partners to the CPSE Project Sponsor. The joint leadership encourages collaboration, speedy communication, and sufficient bandwidth to support both internal and external focus compared to a hierarchical setup

- Assign roles to the party which has the appropriate competency. CPSE would perform overall leadership and sign off
- Draw support and decision-making inputs from CPSE, (b) (4) Partners and existing forums. Working groups would be setup to support the system implementation and data management

CPSE measures project progress through the completion of scheduled deliverables and other agreed-upon metrics. The schedule provides detailed work activities, milestones, and deliverables that would be executed by each team, with clear owners, start dates, due dates, and expected time to complete the tasks. These metrics are tracked and reported in the overall program status reports. These status reports are visible to CPSE project management. The project management team would review the metrics and deliverables weekly to confirm the project is progressing at the agreed-upon pace and quality. The Project Manager would escalate issues to project leadership as needed. As outlined in Table 1 below, we would plan and conduct executive and management briefings and provide associated reporting with the content of each meeting tailored to the audience.

REPORT	AUDIENCE	CONTENTS
Weekly and Monthly Status Reports	Team Leads	<ul style="list-style-type: none"> • Accomplishments during reporting period • Work planned but not completed • Work/Activities planned • Issues/Risks
Weekly and Monthly Team Status Reports	Project Management	<ul style="list-style-type: none"> • Milestones • Work completed this period • Deliverables completed • Work planned but not completed • Work planned for next period • Future activities • Issues/Risks • Performance metrics • Meetings
Monthly and Quarterly Status Reports	Executive Leadership	<ul style="list-style-type: none"> • Milestones • Deliverables • Issues/Risks • Business realization metrics

TABLE 2: CPSE CONDUCTS BRIEFINGS AT EACH LEVEL OF PROJECT EXECUTION TO SUPPORT DELIVERY AND TIMELY ESCALATION AND RESOLUTION OF RISKS AND ISSUES.

The Project Manager combines team members' weekly status reports into the consolidated Project Status Report. The Project Status Report serves as the agenda for the Weekly Status Meeting held with CPSE's Project Leadership. The Project Status Report contains the overall project status and performance based on data from work actuals, team status reports, issue management tool, risk management tool, and the quarterly measurement tool. It summarizes the CER Program project status on completing milestones and provides links to more detailed information for issues and risks, scope changes, and deliverables schedules, particularly when

executive management attention is needed. The Project Manager uses the Project Status Report to communicate project progress against milestones, and corresponding actions against any deviation, risks, issues, and project performance.

Technical Qualifications and Resources

Project Team expertise and applicant prior experience

Ricardo Maldonado P.E. – Currently holds the position of Vice President of T&D Engineering & Grid Transformation at CPS Energy and will serve as the project sponsor. He is an accomplished executive with over 33 years of utility experience in the electric power distribution, substation, system operations, and telecom industry. A highly skilled licensed professional engineer with progressive responsibilities in engineering, planning, operations, maintenance, and construction. Results-orientated with a strong emphasis on workforce safety, project management, and leveraging technology to improve performance and work environments. Ricardo holds a BS in Electrical Engineering, MS in Industrial Engineering and sits on several industry working groups that inform on grid management & innovation.

Guillermo De Hoyos P.E. is the Director of Grid Transformation & Innovation at CPS Energy. He has a diverse background, having previously held positions as Director Chief of Staff for the Office of the CIO and Director of Metering Services. Guillermo began his career with CPS Energy as an Electric Engineer in Underground Engineering and transitioned to Overhead Engineering. He led the design of overhead and underground single and three-phase primary distribution and was responsible for system improvement, civic improvement, streetlights, substation exit, pole attachments, and URD designs. He then transitioned into CPS Energy leadership in 2013, where he held Manager and Sr. Manager roles in Electric Meter Operations. Guillermo received his Bachelor of Science in Electrical Engineering from The University of Texas in Austin in 2004.

George J. Tamez is the Director of Grid Transformation and Planning at CPS Energy, with over 29 years of experience in the electric utility industry. He manages the Transmission and Distribution Planning departments and their Long-Range Plan, develops innovative infrastructure projects, and oversees generation interconnect standards and processes. He also fosters relationships with City of San Antonio, San Antonio Water System, acquisition of JBSA, and research with EPRI, UTSA, and Sandia to further CPS Energy's technical and framework development for community and grid benefit. George provides strategic direction for the Grid Resilience and Innovation Partnership (GRIP) project, leading the San Antonio perspective of Community Energy Resilience for the DOE. With a professional engineering registration in Texas and a degree from Texas A&M University, George is a skilled and knowledgeable leader in the field.

James Trevino is the Senior Director of Control Systems and Operational Technologies at CPS Energy. He has over 30 years' experience in the electric utility industry. For CPS Energy, he leads and provides executive leadership to the management team responsible for providing the real-

time SCADA applications for Gas Transmission, Electric Transmission & Distribution, Outage Management, Remote SCADA field devices, GIS Services, associated business functions.

Andrea Guadarrama has over 10 years of experience in the utility industry and is currently the Sr. Manager of Energy Equity at the largest municipally owned utility company in the US. She partners with leadership to develop and implement the organization's equity strategy and integrates equity planning into its day-to-day operations. Andrea started her career in finance, safety, and strategic management before transitioning to Energy Equity. Her dedication to excellence and results-oriented work led to various roles within the company and the community. She serves on the Board of City Year San Antonio, is the Vice Chair for United Way's Emerging Leaders Council and is a committee member of the Safety Net Impact Council and Strategy committee. Andrea holds a bachelor's degree in Applied Arts & Sciences from Texas State University and an MBA from Colorado Technical University. She will also become a board member for United Way of Bexar County in June 2023.

Jesse Hernandez is the Senior Director of Equity, Community Strategy & Engagement at CPS Energy overseeing all aspects of equity, community engagement and low-income assistance programs. Jesse has over 12 years of utility industry experience and over 25 years of leadership experience. Jesse oversees the Casa Verde weatherization program that provides income qualified customers with an average of \$4,500 in energy efficiency measures to make their home more comfortable and energy efficient which allows them to save an average of \$40-\$50 monthly on their CPS Energy bill. Jesse has also overseen the Save for Tomorrow Energy Plan (STEP) program which allowed CPS Energy to save over 900MW through energy conservation efforts to prevent the need of building a new power plant. Jesse holds a Master's degree in International Business and a Bachelor's degree in General business both from the University of Texas at San Antonio and is a certified Project Management Professional (PMP) and a certified Change Management Professional.

Adam Marin, P.E. is an executive over Substation and Transmission Engineering and leads a cross disciplinary team of engineers and project managers. He has over twenty years of utility experience performing project management, analysis, engineering & construction within the distribution, transmission, and substation engineering areas. Adam has an extensive track record of successful on-time project delivery, ranging from simple to multi-phase cross-functional projects. He has a Bachelor of Science, Electrical Engineering (2000) and a Master of Science, Management of Technology (2006) from the University of Texas at San Antonio. Adam is a licensed Professional Engineer by the Texas Board of Professional Engineers.

Alex Solis, P.E. currently holds the position of Sr. Manager SCADA Technical Support at CPS Energy. He has over 18 years' experience in advanced applications, communications systems. He has held multiple roles of increasing responsibility in the utility industry. Alex has led multiple SCADA deployments including electric transmission, electric distribution, gas and electric outage management systems. Alex holds a Bachelor of Science in Electrical Engineering/Computer

Science and is a licensed professional Engineer by the State of Texas Board of Professional Engineers.

Cynthia Garza, MBA is the Business Management Strategist for CPS Energy's Transmission & Distribution Engineering & Grid Transformation business unit. She holds a Master of Business Administration (MBA) and a Bachelor of Business Administration (BBA). She has over 18 years of experience in the utility industry. She worked as a Human Capital Management Consultant for multiple Fortune 500 clients in varying industries. Cynthia has experience with systems integration, Human Resources and compliance. Cynthia will bring project management, organization, and communications skills to this project.

Hector Franco Jr., P.E. is the System protection Section Manager at CPS Energy. He has over 16 years' experience in the utility industry with increasing responsibility. Hector has led multiple root cause investigations of substation and transmission related breaker operations. Hector holds a Bachelor of Science in Electrical Engineering and is a licensed professional Engineer by the State Texas Board of Professional Engineers.

Santosh Chalise, Ph.D. is a Senior Distribution Planning Engineer at CPS Energy, Texas. He manages distribution automation, distributed generation interconnection, and load forecasting, including uncertainty and growth of DG & EV. With experience in supervisory control and data acquisition systems, he specializes in Microgrid and combined heat and power (CHP) operation. Dr. Chalise was previously a Microgrid Software Developer and commissioning coordinator with Open Access Technology International (OATI), Inc. Here, he completed Microgrid Control Software commissioning for the US microgrids with 2.2 MW of onsite generation and developed a rule-based photovoltaic-battery control feature which improved PV utilization by 30%. His interests lie in distributed generation, automation, renewable energy management, battery lifetime management, and power system optimization. Dr. Chalise received his degrees from the Institute of Engineering, Tribhuvan University, Northern Arizona University, and South Dakota State University in 2004, 2012, and 2016, respectively.

Danny Espinoza Danny Espinoza is an Electrical Engineer with CPS Energy's Strategic Research & Development team. He has been with the company since 2013, starting as a high school intern at the Calaveras Power Station. In his current role, Danny has focused on battery storage and microgrid deployments. Recently, he completed a project in partnership with Yotta Energy to deploy and test Yotta Energy's New SolarLEAF battery units. The project was funded by an American Public Power Association (APPA) DEED grant and was recognized by the APPA for its level of depth and detail in the final report. Danny received his bachelor's and master's degrees in electrical engineering from the University of Texas at San Antonio. He also worked in the UTSA Nano-Electronics Lab throughout grad school and published a report on the development and modeling of new energy storage devices. Danny volunteers as a mentor with CPS Energy's InspireU program, which focuses on providing guidance to students in underserved communities.

Prince Dukuze is a Strategic Research & Innovation Engineer at CPS Energy, where he works with research entities such as Electric Power Research Institute and universities to conduct research on topics such as digital twins, electric vehicles, load forecasts, and innovative technologies. His focus is to make the grid more efficient and improve operational processes by evaluating and piloting technologies like hydrogen back power sources, electric vehicle smart breakers chargers, and dynamic phase balancing equipment. Prince has a bachelor's and Master's in Mechanical engineering and was a graduate researcher, where he led a team in designing a Laboratory scale 10 kW supercritical CO2 reciprocating engine to demonstrate the feasibility of using supercritical CO2 as the working fluid in a closed loop power cycle. Additionally, he was part of a team that designed and built a Mach 7 Hypersonic Wind Tunnel, where he conducted heat transfer analysis.

Teaming partners

CPSE's proposed CER Program expects to leverage the expertise of several key technology vendors along with key utility technology and process consultants. While these key technology partners and consultants are critical to the success of the Program they are not expected to serve as Teaming partners in the sharing of direct DOE GRIP Grant funds. These key technology vendors and consultants are already well-established partners with CPSE as they have served to support many of the foundational projects which will serve to support the proposed, additional DER investments.

(b) (4)

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Community Partners

CPSE will be partnering with the City of San Antonio (CoSA), University of Texas – San Antonio (UTSA) and San Antonio Water System (SAWS), establishing a mutually beneficial working relationship with the aim of cooperating to develop potential opportunities enabling the City and CPSE to leverage the planned investments in CER Program while developing and implementing additional Grid of the Future concepts.

Adam R. Marin, PE

CPS – Energy – San Antonio, TX (b) (6)

Education

- University of Texas at San Antonio – San Antonio, TX
Master of Science, Management of Technology (b) (6)
- University of Texas at San Antonio – San Antonio, TX
Bachelor of Science, Electrical Engineering (b) (6)

Training

Licensed by the Texas Board of Professional Engineers (*License# 11441*)

Professional Experience

CPS ENERGY – San Antonio, TX

DIRECTOR, SUBSTATION & TRANSMISSION ENGINEERING

(MAY 2022 TO PRESENT)

- ◆ Oversee engineering design, project management, and construction of new electric substation & transmission assets in a safe, reliable, and efficient manner.
- ◆ Ensuring the routing & siting, design and construction of substation and transmission facilities are in compliance with NERC, PUC and other regulatory mandates.
- ◆ Implementing engineering design standards to improve the reliability and safety of the electric transmission and substation assets while meeting all applicable standards.
- ◆ Implementing portfolio management processes to effectively manage transmission and distribution resources and integrate external stakeholder input.
- ◆ Managing property and access to support transmission, substation and distribution requirements for CPS Energy's gas and electric services.
- ◆ Creating and leveraging opportunities to educate stakeholders about current initiatives and strategies
- ◆ Development and management of relationships with community stakeholders impacted by Substation & Transmission infrastructure

REGULATORY CASE MANAGER

(DECEMBER 2019 TO APRIL 2022)

- ◆ Worked closely with internal/external legal counsel to develop an overall strategy for representing CPS Energy at the PUC in obtaining an amended Certificate of Convenience and Necessity (CCN).
- ◆ Communicated to all levels of the organizations including Senior Leadership Team regarding regulations and legislation.
- ◆ Prepared analyses to support regulatory filings. Reviewed and summarized docket filings, key testimony, statements and decisions. Spoke to CPS Energy routing processes, related technical issues and public involvement processes.
- ◆ Worked with other business units in communicating and negotiating with affected landowners and other external stakeholders. Met with landowners and public officials to provide project information and identify/negotiate alternative transmission line routes.
- ◆ Worked with environmental staff and consultants in the preparation of transmission line routing studies and environmental assessments for new electric transmission lines and system upgrades.

OVERHEAD ENGINEERING, MANAGER (MARCH 2015 TO NOVEMBER 2019)

- ◆ Managed a team of 15+ professional and non-professional staff
- ◆ Primary engineer of record for technical review, and sign & seal of overhead designs
- ◆ Participated in development, evaluation, and execution on multi-year engineering contracts to support Overhead, Underground and Customer Engineering
- ◆ Professional development of new engineers and designers
- ◆ Active member/presenter at Southwest Electric Distribution Exchange (SWEDE) Conference.
- ◆ Responsible for managing over \$50 million annually in design projects

EDS STANDARDS AND SPECIFICATIONS, SR. ENGINEER (SEPTEMBER 2012 TO MARCH 2015)

- ◆ Edit, review, and approve EDS specifications, focusing on Distribution, Transmission, Civil and Substation Engineering.
- ◆ Reviewed and implemented proposed material and industry specification changes.

TRANSMISSION ENGINEERING, SR. ENGINEER (FEBRUARY 2004 TO SEPTEMBER 2012)

- ◆ Designed high voltage transmission lines based on analysis of customer needs, schedule, budget, and surveys. This includes meeting National Electric Safety Code (NESC) for transmission lines, local, state, and federal regulations/ordinances and City Public Service standards for transmission line design and construction. Exercised due diligence in obtaining all the necessary materials, permits, funding, construction personnel and equipment to complete designs.
- ◆ EPRI representative – represent CPS Energy on two EPRI task forces: Lightning and Grounding, and Insulators. Reviewed and provided feedback on the development of Polymer Insulator Standard. Provided feedback and assistance in the development of new products.
- ◆ Primary engineer for Transmission Line Rating Project – Responsible for managing preliminary engineering analysis of entire CPS Energy transmission system to meet NERC requirements.

EDS PROJECT MANAGEMENT, ENGINEER (MAY 2002 TO FEBRUARY 2004)

- ◆ Performed analysis of substation and transmission line projects included a full life cycle of facilities.
- ◆ Provided recommendations on new processes for funding, designing, planning, and constructing of large capital projects.
- ◆ Developed training materials and classes for engineering staff.

BUSINESS INFORMATION SYSTEM (BIS) PROJECT, ENGINEER (APRIL 2001 TO MAY 2002)

- ◆ Analyzed, designed, implemented, and made recommendations for new enterprise resource planning software (SAP).
- ◆ Provided technical support following company wide deployment of system.

SUBSTATION ENGINEERING, ENGINEER (JANUARY 2001 TO MARCH 2001)

- ◆ Entry level engineer responsible for minor system projects and upgrades to substation equipment.

Alex Solis P.E.

CPS – Energy – San Antonio, TX | (b) (6)

Education/Certifications

- Bachelor of Science in Electrical Engineering/Computer Science
 - Texas A&M University - Kingsville
- Texas Licensed Professional Engineer

Professional Summary

I have worked with utility scale SCADA and associated advanced applications and communication systems for 18+ years in a number of capacities including SCADA engineer and multiple SCADA management roles. Most of this time has been with CPS Energy leading multiple SCADA deployments including electric transmission, electric distribution, gas and electric outage management systems. Most recently I have been involved in the development of the strategic roadmap for Operational Technology deployments at CPSE Energy ensuring CPS Energy's capabilities for the Grid of the Future.

Professional Experience

Sr. Manager SCADA Technical Support

CPS Energy

Dec 2022 – Present

Lead and provide strategic and day to day leadership to the management team, engineers and analysts with direct responsibilities over the Advanced Distribution Management System (ADMS), Gas SCADA system, PI Historian and compliance of Remote SCADA field equipment and applications. Responsible for the different SCADA systems including security, meeting applicable compliance, regulations and standards. Also responsible for collaborating and aligning efforts with Energy Supply business unit, System Operations & Customer Reliability, Grid Modernization, Joint Base San Antonio, Account Management, Customer Strategy, Compliance, Gas Business Unit, Corporate IT, GIS and Enterprise Information Technology Security to provide the optimal solution for customers. Lead efforts to define the strategy for improving to the Strategic Distribution Automation, DER, Gas SCADA, advanced applications process improvements, communicating with the executive team directly as part of the EDS Grid Modernization Strategy and Self-Optimizing Grid Programs. Responsibilities also include overseeing development, changes, and the testing (change management), planning for future upgrades and replacements, timely distribution of real time data, security & compliance patch management, personnel management, and budget administration.

Advanced Distribution Management System (ADMS) Manager

CPS Energy

Sep 2021 – Dec 2022

Manages the team of engineers and analysts with direct responsibilities over the Advanced Distribution Management Systems (ADMS) which includes the Distribution SCADA, Outage Management System (OMS), advanced applications and related systems. Responsible for the uptime and accuracy of the systems, safety and security issues affecting the systems, meeting applicable regulations and standards, and responding to users and stakeholders of other business units in a timely manner. This position is also responsible for collaborating and aligning efforts with EDS, Corporate Communications, Customer Service, and Enterprise Information Technology to provide the optimal solution for internal and external customers. This position will lead implementations of distribution automation programs and process improvements as part of the CPS Energy's Business Plan for Self Optimizing Grid (SOG) that include improving the outage restoration process and general customer experience. Responsibilities also include overseeing development, changes, and the testing (change management), planning for future upgrades and replacements, timely distribution of real time data, patch management, personnel management, and budget administration.

Distribution Management System /

Gas Management System /

PI Historian Manager

CPS Energy

Sep 2019 – Oct 2021

Manage a team of engineers and analysts in support of the Electric Distribution, Gas SCADA, and PI SCADA Historian systems on a 24/7 basis and to ensure its operation in support of CPS Energy's natural gas and electric distribution systems. This position also supports the Gas Business Unit's requirement to remain compliant with PHMSA gas guidelines.

Energy Management System (EMS) SCADA Manager

CPS Energy

Aug 2016 – Sep 2019

Manages the team of engineers and analysts with direct responsibilities over the Transmission Real Time Energy Management System (EMS) SCADA in order to provide a high level of SCADA reliability. Manages specific Transmission Network Applications related to modeling, state estimation, Load Shed, and other advanced applications. Manages customer support for the Transmission System Operators and Engineering Planning groups. Supports Transmission and Substation and Downtown network capital upgrade projects managing schedules, budget and labor requirements. Manages actions required to comply with NERC CIP standards and ERCOT operating guidelines and participates in audits annually or as required. This position is also responsible for collaborating and aligning efforts with EDS, Compliance, Enterprise Information Technology- Security, and Enterprise Information Technology. Responsibilities also include overseeing process improvements, development, changes, and testing (change management), planning for future upgrades and replacements, timely distribution of real time data, patch management, personnel management, and budget administration.

Cynthia Garza

CPS – Energy – San Antonio, TX | [REDACTED] | [REDACTED]

Education

- University of Texas at San Antonio – San Antonio, TX
Master of Business Administration (MBA)
- University of Texas at San Antonio – San Antonio, TX
- Bachelor of Business Administration (BBA)

Professional Experience

CPS Energy, San Antonio, TX

2009 – Present

Business Management Strategist

- Consult, influence and contribute to the development, management and implementation of departmental strategies and programs
- Support the business unit's Executive Leadership Team by leading efforts to monitor the performance of the organization against key goals
- Perform business and customer analytics for the Executive Leadership Team in order to provide input into business strategies, goal setting and continuous improvement
- Lead and execute special projects, initiatives, research and studies for the Executive Leadership Team

SAP Functional Analyst 4

- Design and develop complete business solutions in SAP Human Experience Management (HXM) to meet end user or project requirements
- Primary SAP HCM & SuccessFactors support

Human Resources Information Systems (HRIS) Analyst 4

- Liaise between end users and IT department for new solution requests and production support issues
- Facilitate requirements gathering workshops
- Design solutions for complex problems and business needs
- Design HR Information Technology Strategy and Roadmap
- Responsible for HR reporting using various tools
- Facilitate system testing
- Design new security roles and trouble shoot existing security issues
- Train SAP HCM end users

Worklogix, San Antonio, TX

2009

Principal Human Capital Management Consultant

- Provide Extended Center of Excellence (ECOE) support for clients
- Facilitate requirements gathering workshops
- Responsible for SAP HCM configuration and all stages of testing

Deloitte Consulting, LLP, United States

2006 – 2009

SAP Human Capital Management Consultant

- Multiple Fortune 500 clients in varying industries
- Multiple full-life cycle SAP HCM implementations
- Facilitated requirements gathering workshops
- Designed and documented business processes, blueprint, and functional specifications
- Responsible for SAP HCM configuration
- Managed all stages of testing
- Responsible for data conversion and facilitating data validation

CPS Energy, San Antonio, TX

2001 –2006

Held multiple roles:

- SAP HR Benefits Project Lead
- Leadership Trainer
- Employee Benefits Analyst

MCI WorldCom, San Antonio, TX

2000 – 2001

Technical Trainer

Skills

- Microsoft Office 360
- Communication Skills
- Meeting Facilitation
- Project Management
- Organization Skills
- Training
- Time Management

DANNY ESPINOZA

500 McCullough Ave, San Antonio, TX 78215 

(b) (6) 



CAREER OBJECTIVE

Apply my knowledge of the Utility Industry and my background in Power Electronics to help better prepare the ever-growing Utility Industry. With my focus in Nanotechnology, an emerging field of engineering, I am well versed in how the future of this technology can be applied into the Utility field. I hope to help advance renewable power generation throughout my career.



EDUCATION

Master of Science in Electrical Engineering | University of Texas at San Antonio

(b) (6)

Graduated Cum Laude with a Concentration in Electronic Materials and Devices. Worked on graduate research with Doctor Ahn in UTSA Nano-electronics Lab (UNL).

Bachelor of Science in Electrical Engineering | University of Texas at San Antonio

(b) (6)

Graduated Cum Laude and from the Honors College. Graduated with a concentration in Electronic Power Engineering. Took courses in Communication, Electronic Materials & Devices, and Systems & Controls.



WORK EXPERIENCE

Strategic Research and Innovation Engineering Associate | CPS Energy

SEPTEMBER 2019 – PRESENT

Researched and presented on emerging technologies in the Utility Industry to determine how they could fit in with CPS Energy's research strategy. Managed projects and worked alongside company partners to better utilize advancements in emerging technologies. This work was done to help ensure that CPS Energy, as a Utility Leader, stays a key player in innovation and research. This work was done alongside Guillermo De Hoyos, Director of T&D Grid Transformation & Innovation.

Engineering Intern | CPS Energy

JUNE 2018 – AUGUST 2019

Worked alongside Engineering Planning team, at Spruce Power Plant, in order to better prepare the units for Summer Overall. This work was done to ensure the reliability of the unit and to maintain the standards set by CPS Energy. This work was done alongside Shane Bemis, CPS Energy Plant Manager.

Reliability Engineering Intern | CPS Energy

JUNE 2013 – AUGUST 2017

Worked alongside the Predictive Maintenance team, doing both vibration and oil analysis on all equipment throughout CPS Energy's resources. This work was done to ensure reliability of all major equipment and to identify the root cause of equipment outages. This work was done alongside Bryan DeWaal, CPS Energy Sr Engineer.



SPECIALIZED SKILLS

Simulation Software – LabVIEW, MATLAB, Simulink, OrCAD Cadence, PSpice, EveryCircuit

CAD Software – PDB Editor, Solidworks, Autodesk Fusion 360

Programming Languages – C++, C, MATLAB, Assembly

Microsoft Office – Word, PowerPoint, Excel, Project, Teams, Outlook

Fabrication Skills – Circuit Analysis, Circuit Design

Other Software - ARM Work Manager, SAP Work Manager, GIS System, Arc FM Designer

Personal Skills – Public Speaking and Presenting, Leadership, Project Management, Critical Thinking, Problem Solving, Fast Learner, Self-Motivated, Adaptive, Team-oriented, Time Management



ACTIVITIES

- Tau Beta Pi – Engineering Honor Society member – Honors engineering students in American universities who have shown a history of academic achievement as well as a commitment to personal and professional integrity.
- Society of Hispanic Professional Engineers – General member – Purpose was to form a national organization of professional engineers to serve as role models in the Hispanic community.
- Spirit of San Antonio Marching Band – Drum Major – Represented the University as a leader in the program and worked alongside administration staff.

Guillermo G. De Hoyos, P.E.

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- University of Texas at Austin– Austin, TX
Bachelor of Science, Electrical Engineering

Licensing / Training

- Licensed Professional Engineer (P.E.) in the State of Texas
- Lean Six Sigma Yellow Belt Lean Fundamentals

Professional Experience

05/22 to Present - **DIRECTOR, T&D GRID TRANSFORMATION & INNOVATION** - CPS Energy

- Provide strategic direction, guidance and leadership to three business area; Strategic Research & Development, Pole Attachment Services, & Asset Health Program
- Collaborated with key departments within the CPS Energy Electric Distribution areas as well as other areas across the organization ensuring alignment of strategies to improve operations
- Oversee the research & development of new technologies & processes to provide solutions to long-term grid challenges
- Provide governance to the Pole Attachment Standards to adhere to evolving technologies while also processing new pole attachment applications for wireline, wireless and banner attachments
- Lead internal and external team members for the successful implementation of the downtown decorative underground fed streetlight 4G/5G antenna installations
- Responsible for providing asset replacement project proposals based on asset risk assessments from multiple data sources and the participation of key stakeholders

07/19 to 5/22 - **DIRECTOR, CHIEF OF STAFF OFFICE OF THE CIO** - CPS Energy

- Provided critical thinking, influence, and guidance in the development of long term and short term plans involving strategy development, resource allocation, work plans, timelines, and financial outcomes
- Developed and cultivated cross organizational stakeholder relationships to amplify alignment with critical internal partners within CPS Energy as a whole
- Development and executed a communication strategy to the EIT team and partners with teams to implement enhanced communication and transparency
- Collaborated with key departments and other Chief of Staff appointees across the organization ensuring alignment and leadership participation in the day-to-day environment of developing operational and business planning
- Provided support to the organization's Leadership Team in coordinating regular meetings and ensures leadership attention and focus are on the most important areas that drive measurable business results with clear outcomes
- Responsible for the EIT assurance framework that included audits, risk, business continuity, environmental compliance, cyber security, and NERC programs

02/18 to 07/19 - **DIRECTOR, METERING SERVICES** - CPS Energy

- Provide strategic direction, guidance and leadership to four business area; Electric Meter Operation, Energy Measurements, Grid Support and Revenue Assurance and Meter Quality areas comprised of 7 direct reports and approximately 80 indirect reports
- Developed and execute strategies for Meter Services by leveraging a working knowledge of best practices & new technologies that drive customer & operational effectiveness
- Provided technical background, understanding and knowledge of metering and metering systems; SAP, UIQ, MV90, oracle databases, etc.
- Oversaw and participate in the development of the department's budget and annual business plan; forecasts funds needed for staffing, meters, equipment, materials and supplies
- Led cross-functional activities to resolve problems, integrate solutions and change processes to enhance AMI usage that ultimately improves the customer experience and identify efficiency gains
- Directed daily operations of AMI Endpoint management of over 1.2 million electric and gas devices

09/13 to 02/18 – **MANAGER & SR. MANAGER, ELECTRIC METER OPERATIONS** - CPS Energy

- Provided strategic direction, guidance and leadership to three business area; Electric Meter Operation, Energy Measurements and Grid Support areas comprised of 4 direct reports and approximately 36 indirect reports
- Managed and provided guidance to field and shop wage/union employees as well as salary field and office employees
- Managed O&M and multi-million dollar Capital budget for Electric Metering Operations
- Manager & Oversee electric meter material inventory, forecasting and purchase for all new and maintenance needs for CPS Energy; approximately 850K meters
- Led the development and administration of the budget, goals and objectives for the Electric Meter & Grid Support Department.
- Managed AMI Electric Deployment Project O&M/capital budget, material orders, resource planning, meter installation and schedule of project

10/04 – 10/13 - **ENGINEER, UNDERGROUND AND OVERHEAD ENGINEERING** - CPS Energy

- Led design of overhead/underground single & three phase primary distribution
- Led design and verification of overhead/underground streetlight infrastructure and billing
- Responsible for overhead/underground System improvement, Civic improvement, streetlights, Substation exit, pole attachments and URD.
- Management of inventory forecasting/purchase of overhead/underground transformers, capacitors, poles, and underground conductors
- Coordination between CPS Energy and Telecoms within the CPSE territory
- Management and coordination of the Overhead distribution and transmission violation project

Skills

SAP, MS Project, MS Visio, MS Office suite, MS Access, ITRON/UIQ, GIS, WMIS

Hector M. Franco Jr., P.E.

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- University of Texas at San Antonio– San Antonio, TX
Bachelor of Science / Electrical Engineering, (b) (6)

Licensing / Training

- Licensed Professional Engineer (P.E.) in the State of Texas
- Lean Six Sigma Yellow Belt Lean Fundamentals

Professional Experience

CPS Energy

500 McCullough, San Antonio, TX 78215

Manager

October 14, 2013 - Present

- System Protection Section: *January 21, 2019 – Present*
 - Supervise team of engineers to develop system protection schemes for relays, breakers, and switchgears for substations and transmission lines.
 - Manage section budget
 - Lead root cause investigations of substation and transmission related breaker operations.
 - Develop and maintain system protection related NERC documents/submittals to ensure compliance.
- Standards & Specifications Section: *October 14, 2013 – January 18, 2019*
 - Supervise team of engineers and specialists to revise material specifications and construction standards.
 - Manage section budget
 - Provide direction to engineers and specialists to ensure compatible units and macro units contain correct materials and accounting principles when used to design the distribution system.
 - Evaluate and analyze new products for potential implementation into the CPS Energy distribution system.
 - Assist in addressing material quality issues when products fail to meet CPS Energy standards and specifications.

Engineer

May 22, 2006 to October 11, 2013

- Power Quality & Reliability Section: *January 26, 2009 to October 11, 2013*
 - Analyze electric distribution outages to identify trends in circuit performance and the root cause of electric distribution outages.

- Analyze the unknown cause of repeated circuit breaker and recloser outage events with CYMEDIST circuit model software to identify the approximate location of outages.
 - Conduct protective device coordination studies using CYMETCC software for new recloser installations.
 - Calculate electric distribution system and circuit reliability indices to identify poorest performing circuits.
 - Develop remediation plans, including fusing and identifying electronic recloser locations, to improve circuit reliability.
 - Prepare reliability performance reports to provide insight into remediation efforts and the cause of outages.
 - Work with residential and commercial customers to address and remediate reliability and power quality concerns
- Standards & Specifications Section: *May 22, 2006 – January 23, 2009*
 - Lead and coordinate team efforts with the engineering and construction areas to revise material specifications to ensure products meet the needs of the company and adhere to trends/practices in the industry.
 - Evaluate and analyze new products for potential implementation into the CPS Energy distribution system.
 - Validate current Construction and Line Design Standards and implement changes as needed to improve reliability, safety, and reduce costs.
 - Create and edit compatible units and macro units to ensure the correct materials and accounting principles are used when designing the distribution system.
 - Evaluate production facilities and quality control plans to ensure that products received from each manufacturer are of good and consistent quality.
 - Assist in addressing material quality issues when products fail to meet CPS Energy standards and specifications.

Skills and Attributes

- (b) (6) Graduate of the Alexander Briseno Leadership Development Program (ABLDP)
- Proficient knowledge of CYME Dist and CYME TCC analysis software
- Proficient knowledge of all Microsoft Office Programs
- Proficient knowledge of WMIS planning software
- Proficient knowledge of SAP business management software

James C. Trevino

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- United States Merchant Marine Academy – Kings Point, New York
Bachelor of Science, Mechanical Engineering with a specialization in Marine Engineering Systems (ABET Accredited), (b) (6)

Professional Experience

Senior Director /Director – Control Systems & Operational Technologies, EDS **2016 - 2023**

Leads and provides executive leadership to the management team responsible for providing the real-time SCADA applications for Gas Transmission, Electric Transmission & Distribution, Outage Management; Remote SCADA field devices; GIS Services; and associated business functions. Leads the EDS SCADA Strategic Transformation Program that supports EDS Grid Modernization Strategy and Self Optimizing Grid Program. Leads the EDS GIS Strategic Transformation Program that supports EDS GIS data and GIS data workflow process for the Work and Asset Management for Energy Delivery Services, Gas Delivery and Customer Strategy Business Units as part of the ERP Transformation. Directs the planning and implementation of all SCADA and related systems to ensure alignment with CPS Energy strategic direction and objectives. Directs the operation of the various Cyber sensitive systems to meet the on-going requirements of the gas and electric business units. Directs the effective growth and operation of the secured systems network in a manner compliant with NERC, TSA and PHMSA security requirements. Oversees management team and develops the personnel to ensure effective operations of the real time SCADA systems environment. Collaborates with Executive team regarding strategic direction of the future functionality of the operational technology systems. This position also supports the business plan & key results, participates in management succession planning, and assessing and mitigating organizational risks.

Director – Construction Service Improvement & Process Improvements, EDS **2016 - 2018**

Led the multiple phase Construction Service Improvement Program and centralized scheduling project managers and schedulers for process improvements, data maintenance quality assurance activities for the processes within New Construction Work Management for Electric Distribution and Gas Business Units utilizing the Customer Engineering web portal, SAP, WMS, and MDS. Led new construction assessment, RFP development and selection, and drove program strategic objectives to improve developer and contractor experience when partnering with CPS Energy in the end-to-end delivery of their new construction projects. Led a cross functional team across the company and external partners reporting outcomes to the CEO, City of San Antonio Mayor's Utility Task Force, and external customer groups like the Real Estate Council, Associated Builders and Contractors, and Plumbing-Heating-Cooling Contractors Association.

Director – Grid Support, EDS **2014 - 2016**

Led the Business Process Team to complete 195 Business Processes as per the Grid Optimization Program schedule for AMI Meter Deployment and Billing & Device Control Phases that required facilitation across several cross functional project teams that included AMI Electric, AMI Gas, Meter To

Cash, Opt Out, Meter Installation, outage restoration, Distribution Automation and critical BPs related to Network & DA. The Business Process Team also developed the GAP Documents for the Business Processes which identified the impact to organization change, training change, technical change, security role change or manual process to prepare the organization for operational readiness. Also led a cross functional team to develop and finalize the Opt Out Policy aka Smart Meter Xchange Program and the Meter Deployment Plan for 2014 through 2016.

Senior Manager –Technical Services EDS 2007- 2013

Managing support sections Mobile Data System (MDS), GIS, GIS Data Services, EDS Training, and Obvient reporting providing strategic program management connecting projects to business results. Facilitating and leading process improvements to support business areas for scheduling, planning, and construction. Coordinating support with Control Systems for hardware support and renewal, Database Support, and EAD for integration and program support. These includes projects like Obvient Upgrade, Mass Customer Communication Implementation, WMIS Upgrade, and MDS Upgrade.

Overall Project Manager - Outage Management/Geographical Information Systems,

Operations Department, EDS 2004- 2007

Managing project team of Distribution Management System (DMS), Outage Management System (OMS), GIS, Training, Map Support, and integration members for the evaluation, implementation, data conversion, and support of new Outage Management & Geographical Systems including Design Tools and Mobile GIS components for electric and gas distribution and operations business units while maintaining existing Siemen’s electric Distribution Management System (DMS), Outage Management System and Bentley’s Geographical Information System. Also managed existing Mobile Data section supporting mobile work force management for construction, operations, maintenance, collections, meter shop, and RPU crews. Provided integration existing systems as part of the project team to SAP, IVR, MDS, WMIS, SynerGee, Cyme, and EMS SCADA. Managed Budget of \$12M for OMS/GIS Project and \$3.5M for MDS Upgrade and MDT replacement.

**Supervisor/Engineer III, Distribution Management System (DMS SCADA) Support
Operations Department, EDS 2003- 2004**

Project Manager, Project Management & Process Improvement, EDS 2002 - 2003

Special Project Manager, Business Information Systems 1999 - 2002

Supervisor/Engineer III, Engineering & Technical Section 1997 – 1999

Project Engineer/Key Accounts, Engineering & Technical Section

Business Development Division, Customer Service 1995 – 1997

Engineer, Engineering & Technical Section (Large Commercial Planning),

Business Development Division, Customer Service 1993 – 1995

Jesus (Jesse) Hernandez

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- University of Texas at San Antonio
B.B.A. General Business, (b) (6)
M.B.A. International Business, (b) (6)
- Our Lady of the Lake (OLLU)
Leadership Development Program, (b) (6)

Licensing / Training

- Prosci Certified Change Management Professional March 2020 - Current
- Project Management Professional (PMP) Certification July 2003 - Current
- Licensed Insurance Agent (Property & Casualty and Life/Health) March 2006 - 2012

Professional Experience

CPS Energy

10/10- Current

Sr. Director Equity, Community Strategy & Engagement

02/22-Current

- Enhance the customer experience by providing operational oversight and strategic leadership in equity, community strategy & engagement
- Serves as a key executive leader and an active participant in making strategic decisions affecting CPS Energy's customer initiatives
- Leads and executes the Small/Medium Business (SMB) strategy and strengthens key interactions with our customers, community and our elected officials

Director Community Programs

06/14 - 02/2022

- Strengthen existing and forge new relationships to build CPS Energy's community engagement, visibility, impact and assistance with the public increasing engagement with elected officials and increasing MSI customer satisfaction for the residential sector.
- Executive leading CPS Energy's Public Safety & Education program (PS&E). This includes education to first responders, contractors, educators and general public
- Oversee a \$156M low-income weatherization program – Casa Verde delivering nearly 30,000 weatherized homes under budget and ahead of schedule
- Accountable for the entire lifecycle in all of CPS Energy's customer programs including outreach, promotion, enrollment and processing. As executive in charge; community engagement has continued to increase year over year engaging thousands of customers.

Director Customer Solutions & Delivery

12/12 - 06/14

- Facilitated the development and implementation of various initiatives for achieving the delivery of the CPS Energy Save for Tomorrow Energy Plan (STEP) a tier 1 metric which aims at reducing the growth in the community's demand for electricity by 771 megawatts (MW), the equivalent output of a large power plant, by year 2020
- Provide executive leadership and direction for the Energy Management department which is responsible for managing the STEP programs including Residential, Commercial and Industrial incentives; New Construction rebates; and Demand Response rebates and incentives. Including responsibility for its \$849M budget.

Energy Management Manager**03/12 - 12/12**

- Manage the CPS Energy Save for Tomorrow Energy Plan (STEP) programs including Residential, Commercial and Industrial incentives; New Construction rebates; and Demand Response rebates and incentives
- Create & develop the new commercial and residential energy efficiency program offerings that encourage customers to reduce energy consumption and are aligned with the strategic direction and aggressive goals of CPS Energy conservation initiatives
- Create & develop new Demand Response program offerings for commercial and residential customers

Program/Project Manager**10/10-03/12**

- Engage with 3rd party vendor to identify new energy efficiency program offerings that encourage customers to reduce energy consumption
- Work with Sr. leadership to enhance or justify new Energy Efficiency Programs for future years
- Review commercial custom energy efficiency programs and work closely with consulting firm to quantify the energy efficiency savings vs. dollars spent per KW and KWh

Access Insurance**3/06 – 10/10****Licensed Insurance Agent****3/06 – 3/12**

- Licensed in Property & Casualty and Life/Health
- Engaged with customers to evaluate their insurance needs and search for the best coverage to meet the customers' needs
- Educated customers on the importance of insurance and the various types of insurance available to meet their needs

H.E. Butt Grocery Company**3/93 – 4/09****I.T. Project Management****8/03 – 4/09****Senior Business Systems Analyst****11/01 - 08/03****San Antonio/ West Texas Regional Scheduling Specialist****11/98 - 11/01****Border Region Partner Solutions Specialist (Laredo, Texas)****11/97 - 11/98****Store Office Solutions Specialist (Monterrey, Mexico)****06/96 - 11/97****Retail Store Experience Including Various Leadership Positions****03/93 - 06/96**

Prince Dukuze

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- University of Texas at San Antonio - San Antonio, TX
Master's in Mechanical Engineering, (b) (6)
Bachelor's in Mechanical Engineering

Professional Experience

Strategic Research and Innovation Engineer

CPS Energy, San Antonio, TX

April 2021 – Present

- Research and evaluate the readiness and/or benefits of various emerging technologies relevant to the Energy/Utility industry and provide feedback to management. Examples of such technologies include smart breakers, alternative fuel back-up power sources for substations, and power quality equipment.
- Conduct pilots of innovative solutions (software or hardware) to the Utility industry and work with both external and internal customers towards the implementation and integration of successful pilots into current Operations.
- Evaluate current and projected impacts of the electrification of the transportation industry on the electric grid and ways to mitigate any adverse effects. Specific emphasis is given to forecasting the electric load resulting from the electrification of Medium and Heavy Duty (MD-HD) vehicles.
- Analyze Electric Vehicle Charging Station Network data to understand the network usage, produce load shapes, heat maps, and other relevant key findings to help colleagues and upper management make data-driven decisions.
- Acquire, process, and analyze AMI & MV90 interval data to derive meaningful trends, patterns, or anomalies used to solve or highlight specific business needs.
- Support team members in the development of project timelines, objectives, and performance criteria.

Design, Analysis, and Construction of a supercritical CO₂ Reciprocating Engine

University of Texas San Antonio, Funded Graduate Research Assistant

Aug. 2019 – Dec. 2020

- Lead a team of both graduate and undergraduate students in the analysis and design of a reciprocating piston engine of a 10 kW power capacity funded by CPS Energy to demonstrate the feasibility of utilizing sCO₂ as the working fluid in a closed loop power cycle.
- Conducted an extensive thermodynamic analysis of the system and provided key information necessary for sub-teams in the design and selection of pertinent turbomachinery components.
- Performed structural analysis (static & dynamic) of critical mechanical components to the system.
- Designed all major mechanical components of the engine and created their detailed engineering drawings.

- Performed an analysis of the expansion and compression process of the sCO₂ in the cylinders and used the results in designing a functional piston engine assembly of critical importance to produce work.
- Served as an engineering liaison between groups to ensure successful integration of various components into the system.

Mach 7 Hypersonic Wind Tunnel: Design, Analysis & Build

University of Texas San Antonio, Funded Graduate Research Assistant

Jan. 2019 – Dec. 2019

- Conducted heat transfer analysis of the driver tube and sized heating components used on the wind tunnel necessary for preventing liquefaction of test gases after expansion of the hypersonic flow through the nozzle.
- Evaluated insulation materials needed to minimize thermal losses in the system and prevent burn injuries to personnel per industry standards.
- Member of a team that demonstrated the optical diagnostic technique known as Background-Oriented Schlieren as part of various visualization techniques to be used with the wind tunnel
- Assisted with the construction and wiring of the primary circuit panel that is used to run the wind tunnel.
- Member of a team that reviewed design drawings and the manufacturing of various components of the wind tunnel.

Effects of Atmospheric Boundary Layer on Wind Turbines

University of Texas San Antonio, Undergraduate Research Assistant

Jan. 2014 - Dec. 2014

- Performed research to analyze the effect of atmospheric boundary layer on wind turbines.
- Completed 1D, 2D, and 3D simulations to assist in determining the effects of interactions between nocturnal atmospheric boundary layers and wind turbines.
- Collaborated regularly with graduate students and faculty staff to share results obtained from simulations.

Dynamics and Controls Adjunct Lab Instructor

University of Texas San Antonio

Aug. 2019 – Dec. 2020

- Instructed two sections of the dynamics and controls lab helping familiarize engineering students with the use of various software to control mechanical systems, such as LabVIEW, Simulink, and Arduino.
- Taught students fundamental concepts of controls utilized in real world mechanical systems.

Computer Aided Design (CAD) Adjunct Instructor

University of Texas San Antonio

August 2018 - May 2019

- Held TA sessions to help engineering students with technical design drawings.
- Graded SOLIDWORKS projects, exams, and homework.

Software Skills

Python, PI system, Hadoop, MATLAB, Pandas, LabVIEW, OpenFOAM (CFD), Simulink, AutoCAD, SOLIDWORKS, Autodesk Inventor, Data Acquisition-Processing-&-Analysis, ABAQUS, ParaView, MyRio, Arduino, Linux, Microsoft Office.

George J. Tamez, P.E.

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- Texas A&M University
Bachelor of Science in Electrical Engineering – (b) (6)

Licensing / Training

- Texas P.E. certification

Professional Experience

CPS Energy – San Antonio, TX

Director

August 2011 - Present

- Responsible for Transmission and Distribution Planning and Grid Transformation
- Supervise areas (Generation Interconnects, Recloser Deployment, Transmission Planning, Distribution Planning)
- Responsible for Infrastructure Innovation & Transmission and Distribution Planning
- Supervise areas (Infrastructure Innovation, Transmission Planning, Distribution Planning)
- Responsible for Distribution Engineering
- Supervise Engineering area (Overhead, Underground, Network, Standards and Specifications, Utility Coordination, and GIS Services- since 2015)

Senior Manager

August 2011 – May 2005

- Responsible for construction and maintenance activities at Southwest Service District and UG Construction
- Supervise Electric (Overhead, URD, S/M), Civil UED, UG Craft and UG Civil workgroups.

Manager

Jan 2003 – May 2005

- Manager of Overhead Engineering Section.
- Responsible for engineering, planning of system & civic improvement, maintenance and comm. jobs.

Senior Engineer

August 2002 – Jan 2003

- Supervisor of Overhead Engineering Section.
- Responsible for engineering, planning of system and civic improvement, maintenance and comm. jobs.

Project Engineer

Sept 1999 – Aug 2002

- Overhead Engineering Engineer planning and coordinating system improvement projects.
- Underground Engineering Engineer planning and coordinating system and conversion projects.

Junior Engineer

Sept 1996 – Sept 1999

- Underground Engineering Engineer planning and coordinating electric jobs.
- Standard and Specifications Engineer creating and revising specs, CU's and material description

Andrea M. Guadarrama, MBA

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- Colorado Technical University
MBA, Change Management
- Texas State University
Bachelor's

Professional Experience

CPS ENERGY – 2013 – Present – San Antonio, TX:

- **Senior Manager of Energy Equity**
 - Assists in the development, implementation and evaluation of proactive equity initiatives while identifying opportunities for growth, improvement, and innovation
 - Serves as a catalyst and change management champion for integrating equity strategies into the organization's day-to-day operations. Gains stakeholders' buy-in for the successful execution of strategies
 - Develops metrics and standards to include leading KPI's to evaluate the impact and effectiveness of equity programs to include geographical impact based on demographics
 - Initiates and facilitates the development of appropriate program related content and communications materials to include all marketing, applications and website design
 - Supports the refinement, conceptualization and implementation of standard operating procedures, policies, and work processes ensuring proper development and training; in accordance to appropriate change management and program implementation strategies
- **Senior Manager of Enterprise Alignment (Strategy)**
 - Provides strategic support by aligning strategy, business planning, budget, compliance and risk. Assesses and performs deep analysis to provide recommendations to business areas regarding structure and alignment of strategy. Coordinate key Enterprise Strategy alignment.
 - Establish relationships with all levels of the organization for effective alignment
 - Gains stakeholders' buy-in for the successful execution of strategies
 - Ensure documentation of key strategic decisions
 - Serve as a thought leader in business planning, capability requirements, and actionable strategy development
 - Bridges partnerships across functional groups through open communication and transparency
- **Senior Manager of Safety & Health / Manager of Program & Analytics**
 - Managed departmental and Enterprise reporting & metrics, to include benchmarking studies, audits, quarterly/annual evaluations and surveys
 - Business process manager for technology plan, enhancements, and other process driven projects
 - Developed consistent documents, communications and messaging
 - Enhanced and improved the safety, work conditions, and employee culture related to safety & occupational health initiatives
 - Supported development of safety strategy
- **Financial Analyst III**
 - Coordinated, developed and tracked the O & M and Capital budgets for Generation and Strategy
 - Communicated with business unit's project managers and leadership to resolve and explain budget discrepancies and variances (account reconciliation)

- Assisted with the development Power Generation, Gas, ESMO, and Environmental' s annual Business Plan including monthly metric/KPI tracking, analysis, and reporting
- Researched and identified potential improvements in business processes through financial analysis

ALLIANCE BERNSTEIN – San Antonio, TX

- **Pension Client Relationship Analyst – Team Lead – 2012 – 2013**
 - Quality control/quality assurance on trading activity, verifying bank account balances associated with client deposits and disbursements, pulled control reports, and close the Separate Account activity for the day
 - Ensured that the processing and reconciliation of Pension Client Reporting transactions and their corresponding money movements are completed accordingly
 - Quality reviews of client purchases and disbursements. Compiles information for fees sent to Treasury and Clients.
 - Responsible for preparing financial reports to clients and treasury

HEADQUARTERS AIR FORCE SERVICES – San Antonio, TX

- **Financial Management Analyst 2010 – 2012**

FEDERAL RESERVE BANK OF DALLAS – San Antonio, TX

- **Operations Support Specialist 2009 – 2010**

WFM 2.0 – San Antonio, TX: Big 8 Public Accounting Firm

- **Work Force Management Consultant 2008 – 2009**

JEFFERSON BANK – San Antonio, TX

- **Trust Operations Specialist 2007 – 2008**

INTEC SAN ANTONIO – San Antonio, TX

- **Project Coordinator 2006 – 2007**

Highlights

- 10 Years of Utility Experience
- 8 Years of Management Experience
- Strategic Business Planning and Portfolio
- Strong Business Acumen with Utility Industry Experience
- Proficient in presentation collateral development

Ricardo Maldonado, P.E.

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- Bachelor of Science – Electrical Engineering | Texas A&I University, Kingsville, TX, (b) (6)
- Master of Science – Industrial Engineering | St. Mary's University, San Antonio, TX, (b) (6)
- Rice University | Executive Accelerated Development Program – (b) (6)
- Our Lady of the Lake | Leadership Development Program – (b) (6)
- Northside Chamber of Commerce Leadership Lab – (b) (6)

Professional Experience

02/2022 – Present

CPS Energy, San Antonio, Texas

Vice President – Transmission & Distribution Engineering and Grid Transformation

- Oversee all aspects of the electric transmission and distribution engineering functions including substation & transmission design & construction, T&D system planning, and distribution engineering with an annual budget of \$393M of capital and \$31M of O&M.
- Specifically charged with developing and implementing grid modernization strategies to improve reliability and resilience by executing a prioritized portfolio of solutions that accommodate and leverage significant increases of non-wire alternatives such as wind, solar, and battery energy resources.
- Oversee strategy to deploy grid awareness solutions with appropriate response capabilities that enable smart grid functionality such as Fault Location Isolation & Restoration (FLSR), Volt-Var Optimization (VVO), and microgrids.

01/2017 – 02/2022

CPS Energy, San Antonio, Texas

Senior Director – Customer Reliability

- Oversaw all aspects of the Emergency Operations Center (EOC) which includes the 24/7 Transmission and Distribution control room operations, real-time Supervisory Control and Data acquisitions (SCADA) support services, and Electric Service Restoration.
- Oversaw the development of the 10-year SCADA roadmap strategy that consolidated 3 unique SCADA vendor solutions into one more tightly integrated solution that better meets the needs of the changing grid.
- CPS Energy organization responsible for operating and controlling the Electric Transmission and Distribution Systems. Responsible for North American Electric Reliability Corporation (NERC) and all other Regulatory Compliance adherence requirements of System Operations personnel.

02/2014 – 01/2017

CPS Energy, San Antonio, Texas

Senior Director – Distribution Construction and Maintenance

- Oversee operations of all aspects of electric distribution construction and maintenance activities which includes an internal staff of 723 employees supplemented with approximately 350 contract resources with an operating budget of over **\$67M**. Achieved industry-leading reliability and safety performance while **improving on-time completion rates to 87%**.

2001-2014

CPS Energy, San Antonio, Texas

- Director-Reliability & Outside Services (2012-2014)
- Manager – Power Quality & Outside Services (2010-2012)
- Manager – Substation Construction and Maintenance (2006-2010)
- Supervisor – Distribution and Reliability Planning (2003-2006)
- Senior Engineer – Distribution Management Systems (2001-2003)

1997-2001

SBC Services (AT&T), San Antonio, Texas

- Corporate Manager-New Technology Planning

1989 – 1997

CPS Energy, San Antonio, Texas

- Project Engineer-Transmission and Distribution Engineering (1989-1997)
- Staff Engineer-Generation Planning Division (1989-1991)

PROFESSIONAL LICENSES, CERTIFICATIONS, AND MEMBERSHIPS:

Registered Professional Engineer (P.E.)

Member – Texas Society of Professional Engineer

Board Member – San Antonio Museum of Science and Technology (SAMSAT)

Member - EPRI Transmission and Distribution Sector Councils

Member – APPA Energy Storage Working Group

Member – AEIC Electric Power Apparatus Committee

Lean Six-Sigma Yellow Belt Trained

OSHA 30 Trained

Santosh Chalise, Ph.D., P.E.

500 McCullough Ave, San Antonio, TX 78215 | (b) (6)

Education

- South Dakota State University
Doctor of Philosophy - Electrical and Electronics Engineering, (b) (6)
- Northern Arizona University
MS Electrical Engineering, (b) (6)
- Lincoln University
Master of Business Administration - Management Information Systems, (b) (6)
- Tribhuvan University Institute of Engineering
BE Electrical Engineering, (b) (6)

Professional Experience

CPS Energy, San Antonio, TX

Oct. 2018 - Current

Senior Distribution Planning Engineer (March 2020 – Current)

- Streamlined the DG (including Microgrid and Battery DGR) interconnection process and commissioning requirements with the latest CPS energy and IEEE standards (IEEE 1547-2018).
- Responsible for annual distribution load forecast and ERCOT's Annual Load Data Request (ALDR).
- Responsible for coordinating with Transmission, Substation, Asset Health, Underground, and Overhead engineering to develop a Long Range Planning (10 Years) projects.
- Constantly working with third party contractors, customers, and PV developers on various projects such as ATO installation, PV installation, Capacity request, and Transformer sizing.

Transmission Planning and Operation Engineer (Oct. 2018 – Feb. 2020)

- Performing short-term (to ensure reliability, adequacy, and security) and long-term (to ensure that long-term customer transmission needs are being met) studies in compliance with regulatory requirements and standards by ERCOT, NERC, and IEEE.
- Continuously working to automate the departmental processes (such as power flow studies and database maintenance) using a Python program to improve the efficiency.
- Maintaining database in PI Asset Framework and developed displays in PI Vision for analysis and system monitoring.
- Subject Matter Expert (SME) of two NERC requirements TPL-007 and CIP-14.

Open Access Technology International (OATI), Minneapolis, MN

Sept. 2015 – Oct. 2018

Microgrid EMS Software Developer and Commissioning Coordinator

- Developed and tested several software features for Microgrid EMS (OATI GridMind™) including but not limited to:
 - Operation Optimization: Based on the user preference and resource availability
 - CHP coordination: Module to provide coordination between electrical vs thermal load of combined heat and power (CHP) to improve exhaust heat utilization and CO2 reduction.
 - Solar and wind forecast features based on a local weather station.
 - Interconnection Compliance: Net-Metering and POI power factor correction features (example: ± 0.9).
- Worked closely with multiple vendors (Schneider, Ensync) and customers for successful completion of Microgrid energy management system (EMS) commissioning of USA Microgrid with 2.2 MW of on-site generation.

Lecturer/Power Committee Member
Dept. of Electrical Engineering KEC, Dhapakhel, Nepal

Nov. 2004 - July 2006

- Provided power management consulting solutions to the colleges to improve the reliability from severe load shading problems. Two diesel generators and battery backup were utilized after the recommendation.
- Taught 80 students major electrical engineering subjects: Electrical Circuits I/II, Control Systems, Power System Engineering and Logic Circuits
- Administered electrical engineering laboratory with 5 staffs and 80 students per semester for 1.5 years

SKILLS

PSS/E, CYME, PSCAD, Python, HOMER, Matlab/Simulink, HOMER, JAVA, C++, FORTRAN, Modbus, BACnet, DNP, Common Information Model (CIM)

CERTIFICATION/COURSES

Data Science: Machine Learning (HarvardX), Lean Six Sigma Yellow Belt™

SELECTED PUBLICATIONS

- S. Chalise, J. Sternhagen, T. M. Hansen, and R. Tonkoski, "Energy management of remote microgrids considering battery lifetime," *The Electricity Journal*, vol. 29, pp. 1-10, July 2016.
- S. Chalise, H. R. Atia, B. Poudel, and R. Tonkoski, "Impact of Active Power Curtailment of Wind Turbines Connected to Residential Feeders for Overvoltage Prevention," *IEEE Trans. on Sustain. Energy*, vol. 7, pp. 471-479, April 2016.
- A. Shakya, P. Pandey, S. Chalise, R. Tonkoski, S. Michael, "Solar Irradiance Forecasting in Remote Microgrids using Markov Switching Model", accepted in *IEEE Trans. on Sustain. Energy*.
- L. Bajracharya, S. Awasthi, S. Chalise, T. M. Hansen, R. Tonkoski, "Economic Analysis of a Data Center Virtual Power Plant Participating in Demand Response", accepted in *IEEE Power & Energy Society General Meeting*, Boston, MA, USA, 2016
- M. H. Ullah, S. Chalise, R. Tonkoski, "Feasibility Study of Energy Storage Technologies for Remote Microgrid's Energy Management Systems", accepted in *23rd International Symposium on Power Electronics, Electrical Drives, Automation and Motion*, Anacapri, Italy, Jun 2016
- S. Chalise, R. Tonkoski, et. al, "Data Center Energy Systems: Current Technology and Future Direction", accepted in *IEEE Power & Energy Society General Meeting*, Denver, CO, USA, 2015.
- S. Chalise, F. B. Dos Reis, J. Sternhagen, R. Tonkoski, "Power Management Strategies for Microgrids with High Penetration of Renewables," in *5th International Conference on Power & Energy Systems*, Kathmandu, Nepal, 2013.



March 14, 2023

To Whom it May Concern

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in modernizing the energy delivery system in San Antonio.

Our San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage combined with intelligent grid automation equipment and software to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen that are similarly serious and worthwhile. With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, we will better serve our customers.

The projects we are envisioning will enable us to build scalable solutions that promote energy system resiliency. Moreover, we are targeting to install these projects in disadvantaged communities to simultaneously serve our energy equity strategy.

By supporting CPS Energy's application, you are helping create local jobs in the San Antonio community and create training programs for these jobs. With your help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Thank you for your support.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard G. Medina", written over a horizontal line.

Richard G. Medina, P.E.
Executive Vice President
Energy Delivery Services





CITY OF SAN ANTONIO

RON NIRENBERG
MAYOR

March 14, 2023

Dear Secretary Granholm,

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in a Utility Scale Battery Storage project.

Our San Antonio Energy Resiliency Program aims to demonstrate the potential of battery energy storage to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen that are similarly serious and worthwhile. With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, they will better serve their customers – our constituents.

By supporting CPS Energy's application, you are helping create local jobs in the San Antonio community and create training programs for these jobs. With your help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Thank you for your support.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ron Nirenberg', enclosed within a blue circular scribble.

Ron Nirenberg
MAYOR

CC:

The Honorable Rosa DeLauro, Chair, Committee on Appropriations
The Honorable Lucile Roybal-Allard, Chair, Subcommittee on Homeland Security



March 16, 2023

To Whom it May Concern

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in a Community Energy Resiliency Program, comprised of three projects at three substations: a Smart Grid Corridor demonstration, a Resiliency Substation of the Future, and a Self-Healing Grid project. The proposal will further the objectives of the City's [SA Climate Ready Climate Action and Adaptation Plan](#) that has a major focus on climate mitigation, adaptation and resilience, with a priority placed on equity.

The City of San Antonio (CoSA) is the owner and regulator of CPS Energy, the electric and gas utility that serves the greater San Antonio, TX area and we are excited about the Program's objectives to demonstrate the potential of battery energy storage to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events. We are also very supportive that CPS Energy is targeting substations in disadvantaged communities. In fact, the target areas align closely with CoSA's [Equity Atlas](#) that identifies neighborhoods with high racial inequity and that also have been identified as communities with a high energy burden.

As we have experienced firsthand during Winter Storm Uri in 2021 and the South Texas Ice Storm in 2011, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen that are similarly serious and worthwhile. With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community, with a focus on our most vulnerable neighborhoods.

The City of San Antonio Office of Sustainability worked closely with CPS Energy on a recent project sponsored by Sandia National Laboratories on Designing Resilient Communities in 2022. We are pleased that this project upholds a critical insight from this work: namely, that it is critical to apply an equity lens to energy planning and the targeted deployment of microgrids to ensure that disadvantaged communities with a higher energy burden are enabled to participate in the journey to a clean energy future and benefit from a more resilient energy supply.

By supporting CPS Energy's application, you are helping create local jobs in the San Antonio community and create training programs for these jobs. With your help, CPS Energy will be able to undertake vital work that will modernize and increase the resilience of the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Thank you for your support.

Sincerely,

Douglas Melnick
Chief Sustainability Officer
City of San Antonio



March 15, 2023

To Whom it May Concern,

This letter is in strong support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application that would leverage the unique relationship between the San Antonio Water System (SAWS) and CPS Energy to maximize sustainable community impact.

Our San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage combined with intelligent grid automation equipment and software to improve the reliability of the power grid and provide energy resiliency in response to extreme weather driven emergencies.

As part of this Project, CPS Energy envisions building the Resilient Substation of the Future at a site adjacent to the SAWS Steven M. Clouse Water Recycling Center (SMCWRC) in San Antonio. The SMCWRC is SAWS Flagship Wastewater Treatment Facility and is a critical supply for SAWS' recycled water system, the largest direct use recycle system in the United States.

The substation associated with this facility also provides energy to SAWS' H2Oaks Center, which produces drinking water from three different sources, including a groundwater desalination facility and one of the largest aquifer storage and recovery (ASR) facilities in the United States. This project will provide direct energy backup to these facilities - a crucial component of a resilient energy delivery system. Both facilities are also used extensively for our educational outreach programs so this provides a unique opportunity to highlight the Resilient Substation during education events.

This project would build on the already successful track record between SAWS and CPS Energy on innovative programs to capitalize on the water-energy nexus to save energy. The two utilities collaborated in 2012 on a SunEdison solar farm at the SMCWRC and more recently partnered on a series of generators at critical pump stations that will ensure water resiliency during emergencies and generate power the rest of the time.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. In the utility sector, energy and water are uniquely linked: power companies need water to help generate power and, conversely, electricity is needed to produce and deliver water to customers (often referred to as the Water-Energy Nexus). With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate extreme weather effects within our community. Doing so improves both utilities resiliency during emergency situations that allow us to minimize outages of these critical services and better serve our common customer base.

By supporting CPS Energy's application, CPS Energy will be able to undertake vital work to modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Thank you for your support.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Puente", with a stylized flourish at the end.

Robert R. Puente
President/Chief Executive Officer

March 10, 2023

To Whom it May Concern

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in Utility Scale Battery Storage along with complementary grid technologies for deployment at three strategic locations within the city of San Antonio.

The San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

Based in Kansas City, MO, Black & Veatch is one of the country's largest employee-owned global engineering, procurement, consulting, and construction (EPC) firms. Our mission is to build a world of difference through innovation in sustainable infrastructure.

We have a proud history of serving CPS Energy and are excited to support CPS Energy's application and will provide engineering, construction and advisory services for the San Antonio Community Energy Resiliency Program.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen localized backup power capacity while driving further decarbonization impact are a high priority area and with a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, they will better serve their customers.

By supporting CPS Energy's application, you are helping accelerate the utilization of distribution grid assets to provide backup power and reduce transmission requirements. With your help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of San Antonio and the hardships that such disruptions bring.

Thank you for your support in advancing this critical energy resiliency program for the local community.

Sincerely,



Patrick Hogan
Black & Veatch
Chief Client Officer
Tel +1 913 708 5362
Email hoganpg@bv.com

Hitachi Energy USA Inc.
3151 Briarpark Drive, Houston 77042, Texas, United
States

03/10/2023

Richard Medina
Executive Vice President
CPS Energy
San Antonio, TX

Dear Mr. Medina,

Hitachi Energy understands that CPS Energy is seeking a federal grant to support the implementation of the Energy Resilience Program under the Department of Energy's Grid Innovation and Partnerships Program (GRIP).

We understand that the San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage combined with intelligent grid automation equipment and ADMS software to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

Hitachi Energy is a global leader in power technologies and energy systems. Customers across the utilities, transportation, IT (such as data centers), Smart Life sectors trust our world-class teams of experts to deliver pioneering and digital solutions across the power value chain. Our solutions help meet the growing demand for electricity – affordably, reliably, sustainably, and in a modern way. As CPS Energy's ADMS partner, Hitachi Energy commits to successfully executing the Energy Resilience Program.

Hitachi Energy looks forward to continuing this partnership to support CPS Energy in modernizing the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County.

Sincerely,



Signature
Ron Steiger
Vice President, Network Control North America

©Hitachi Energy USA Inc.

Postal Address: 3151 Briarpark Drive, 77042 Houston, United States
Visiting Address: 3151 Briarpark Drive, 77042 Houston
www.hitachienergy.com

March 13, 2023

Dear Mr. Medina,

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in Utility Scale Battery Storage along with complementary grid technologies for deployment at three strategic locations within the city of San Antonio.

The San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage to improve the reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

For over 30 years, and 100% Made in the USA, OSI has been providing a best-in-class portfolio of utility Operational Technology (OT) solutions including SCADA, Generation Management, Transmission Management, Distribution Management, Distributed Energy Resource Management, and Microgrid Management applications. OSI has an impressive world-wide customer base with over 100 Distribution utility customers serving over 83 million customer meters and over 30 DERMS customers managing thousands of MW's of renewable power.

OSI helps our utilities partners create a more resilient grid while simultaneously helping them achieve their goals in sustainability and carbon reduction. OSI is a proud partner of CPS Energy and committed to providing world class control solutions, with several ongoing tracks of work to further expand the existing OSI system at CPS Energy. This work will allow for more DERs to be integrated to the system, accelerate CPS Energy's decarbonization goals for the city of San Antonio, and align to EPA goals.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen localized backup power capacity while driving further decarbonization impact are a high priority area and with a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, they will better serve their customers.

By supporting CPS Energy's application, you are helping accelerate the utilization of distribution grid assets to provide backup power and reduce transmission requirements. With your help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of San Antonio and the hardships that such disruptions bring.

Thank you for your support in advancing this critical energy resiliency program for the local community.

Sincerely,



Sally Jacquemin
Vice President and General Manager – Power & Utilities



March 10, 2023

To Whom it May Concern,

I write on behalf of SAMSAT, The San Antonio Museum of Science and Technology in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in modernizing the energy delivery system in San Antonio.

SAMSAT operates a hands-on technology museum complex at Port San Antonio providing STEM exhibits and tours, after school classes, and summer camps. SAMSAT facilitates the SA Smart program with the City of San Antonio, Invention Convention, The R-20 Premier e-Sports League and the like. SAMSAT's History Center features a world-class collection of lighting and electrical artifacts and AREA 21 (21st century technology) in the new Boeing Center at Tech Port showcases a model "Cyber City" with a fully-functional SCADA power grid operating a model city. In addition, SAMSAT currently delivers classes aligned with the CPS Energy Smart Energy Education program both at SAMSAT locations and at local schools. The annual goal for school and community engagement by SAMSAT is 100,000 persons.

Our San Antonio Community Energy Resiliency Program aims to demonstrate the potential of battery energy storage combined with intelligent grid automation equipment and software to improve reliability of the distribution grid and provide energy resiliency services in response to climate-driven events.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Any measures to strengthen that are serious and worthwhile. With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, they will better serve their customers – our constituents.

By supporting CPS Energy's application, you are helping create local jobs in the San Antonio community and create training programs for these jobs. With your help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Moreover, the San Antonio Museum of Science and Technology, with the direct support of CPS Energy, will be able to use, curate and display actual energy resilience systems to our students and to the general public. We will expand our educational programs to demonstrate the promise of a Smart Grid. Specifically, the Museum is committed to developing new Smart Grid curriculum for K-12 school children to be taught by Museum staff during field trips to our location.

Thank you for your support for this important community initiative.

Sincerely,

A handwritten signature in black ink, appearing to read "D.A. Monroe", with a stylized flourish at the end.

David A. Monroe
Founder & CEO

March 8, 2023

To Whom it May Concern,

I write in support of CPS Energy's Grid Resilience and Innovation Partnerships (GRIP) Program application to invest in a Utility Scale Battery Storage project.

The institute's research projects including Self-adaptive Protection of Inverter-Based Power Systems Using Explainable Artificial Intelligence (AI) & Toward Optimal Transportation Electrification: Collaborative Smart Grid Urban Planning using AI-Driven City-Scale Digital Twin will both provide and gain benefit from this joint effort.

As we have experienced firsthand in recent years, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen that are similarly serious and worthwhile. With a Grid Resilience grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community. In doing so, they will better serve their customers – our community.

By supporting CPS Energy's application, we are helping create local jobs in the San Antonio community and create training programs for these jobs. With our help, CPS Energy will be able to undertake vital work that will modernize the electric grid to reduce impacts from extreme weather and natural disasters for the residents of Bexar County and the hardships that such disruptions bring.

Thank you for your support.

Sincerely,

Krystal Castillo

Krystal Castillo, Ph.D., Sc.D.
Director of the Texas Sustainable Energy Research Institute
GreenStar Endowed Professor in Energy, Mechanical Eng. Department at UTSA

STATEMENT OF PROJECT OBJECTIVES (SOPO)

San Antonio Community Energy Resiliency Program (CRE Program):

A. OBJECTIVES

The objective of the San Antonio Community Energy Resiliency Program is to demonstrate and test Grid of the Future use cases to support resiliency, decarbonization goals and overall service improvements for CPS Energy customers, specifically for distribution circuits in underserved communities within our service territory. We envision four projects with each designed to validate a specific theme:

1. **Grid Orchestration Platform** – enablement of greater grid situational awareness and enhanced management of distributed energy resources by integrating Transmission (EMS), Distribution (ADMS) and Customer (DERMS) applications¹
2. **Smart Grid Corridor** - enablement of control and coordination of grid-based and behind the meter resources including a EV charger and distributed facility combined with a Battery Energy Storage System (BESS) at a substation
3. **Self-Healing Grid** – enablement of advanced grid resiliency capabilities included automated fault location, identification, and service restoration (FLISR) along with voltage optimization (VVO)
4. **Smart Substation** – enablement of enhanced substation-based resiliency services including peak shaving and reactive power compensation through a BESS and ADMS/DERMS solution.

B. SCOPE OF WORK

Summarize the planned effort and approach to achieve the proposed overall project objectives. For projects that involve multiple phases of work, specific scope statement(s) should be defined for each phase. This section should not exceed one-half page.

We envision three major workstreams including

Workstream/ Scope	Key Activities
1.0 Planning Phase: Project Planning and Project Management	Project Management Planning, NEPA Compliance, Cybersecurity Planning, Continuation Briefings Resource Planning, Vendor selection and management, Procurement, Contracting, Technology Selection, Permitting, Engineering
2.0 Execution Phase: Installation of Devices and Integration of Systems	Includes installation of the batteries, racking and enclosures, Battery Management System (BMS), Thermal Management System (TMS) for fire detection, inverter, inverter step-up transformer, LV Switchgear, control and protection system, and all collection and ancillary equipment required to establish a safe and functional energy storage system.
3.0 Monitoring Phase: Monitoring, Controlling and Reporting	Monitor and Control Systems and Field Automation Devices and Reporting to DOE

C. TASKS TO BE PERFORMED

¹ EMS: Transmission Management System – ADMS: Advanced Distribution Management System – DERMS: Distributed Energy Resource Management System

Unless otherwise stated, all SOPOs will include tasks for Project Management Plan, National Environmental Policy Act (NEPA) Compliance, and Cybersecurity Plan (CSP) as instructed below. Further, the applicant should include clear and concise descriptions of their planned tasks (and subtasks if needed). Tasks are to be organized in a logical sequence and grouped into corresponding phases, if applicable.

Task 1.0: Project Management and Planning

Subtask 1.1 – Project Management Plan (PMP):

Within 60 days of award, CPS Energy shall submit a Project Management Plan (PMP) to the designated Federal Project Officer (FPO). CPS Energy shall not proceed beyond Task 1.0 until the PMP has been accepted by the FPO.

The PMP shall be revised and resubmitted as often as necessary, during the course of the project, to capture any major/significant changes to the planned approach, budget, key personnel, major resources, etc.

CPS Energy shall manage and direct the project in accordance with the accepted PMP to meet all technical, schedule and budget objectives and requirements. CPS Energy will coordinate activities to effectively accomplish the work. CPS Energy will ensure that project plans, results, and decisions are appropriately documented, and that project reporting and briefing requirements are satisfied.

Subtask 1.2: National Environmental Policy Act (NEPA) Compliance

As required, CPS Energy will provide the documentation necessary for NEPA compliance.

Subtask 1.3: Cybersecurity Plan (CSP)*

CPS Energy will prepare, revise and resubmit the CSP as often as necessary, during the course of the project, to capture any major/significant changes as applicable to *Applicable to Topic Area 2 [Smart Grid Investments (40107)]*

Subtask 1.4: Continuation Briefing(s):

CPS Energy will brief DOE on roughly an annual basis to explain the plans, progress and results of the technical effort. The briefing shall also describe performance relative to project success criteria, milestones, and the Go/No-Go Decision point that are documented in the Project Management Plan (PMP).

Subtask 1.5 Project Planning/Engineering/Vendor Selection

In this task, CPS Energy will manage the detailed project planning, engineering and vendor selection/procurement.

Task 2.0 – Execution Phase including installation of field devices – reclosers, fault sensors, capacitor banks, regulators, EV chargers, smart inverters and BESS in the three locations

- (b) (4)
- █
- █
- █

Task 3.0 – Monitoring and Control

Subtask 3.1 - Monitor Field Automation Devices – this includes monitoring and controlling installed reclosers, fault sensors and capacitor banks

Subtask 3.1 - Monitor Distributed Energy Resources – this includes monitoring and control of the ADMS, DERMS and DRMS systems

Subtask 3.2 – Benefits Measurement and Analysis – throughout the life of the project, this includes capturing and measuring anticipated benefits and conducting analysis to understand how key features and functionality of the CER Program can be extended across the service territory

D. DELIVERABLES

CPS Energy shall include a list of deliverables that will be submitted during the project.

Subtask 1.1: Project Management Plan

Subtask 1.3 – Cybersecurity Plan (*if applicable)

Subtask 1.4 – Pre-Continuation Briefing Document(s)

Task 2.0 – Project Status Reports

Task 3.0 – Project Benefits Analysis Report

Additional deliverables that will be delivered to DOE include briefings and technical presentations to DOE as requested

In addition to the deliverables listed above, CPS Energy shall submit all periodic, topical, final, and other reports in accordance with the Federal Assistance Reporting Checklist and accompanying instructions.

E. BRIEFINGS/TECHNICAL PRESENTATIONS

CPS Energy will prepare, and present periodic briefings, technical presentations and demonstrations as requested by the Federal Project Officer, which may be held at a DOE or the Recipient's facility, other mutually agreeable location, or via webinar. Such meetings may include all or a combination of the following:

Kickoff Briefing - Not more than 30 days after submission of the Project Management Plan, CPS Energy will prepare and present a project summary briefing as part of a Project Kickoff Meeting.

Pre-Continuation Briefing - Not less than 90 days prior to the planned start of a budget period, CPS Energy will provide a brief the DOE on the results to date, and their plans for the subsequent periods of work. The DOE will consider the information from this briefing, as well as the content of deliverables submitted to date, prior to authorizing continuing the project.

Final Project Briefing - Not less than 30 days prior to the end of the project, CPS Energy will prepare and present a Final Project Briefing on the results and accomplishments of the entire project.

Other Briefings – CPS Energy acknowledges that it may be called upon to prepare and present technical, financial, and/or administrative briefings as requested by the DOE. Additionally, the

DOE may require CPS Energy to make technical presentations at national and/or industry conferences. The CPS Energy looks forward to supporting DOE in all required briefings.



Summary/Abstract for Public Release

Name of Applicant: CPS Energy

Project Manager: CPS Energy will partner with Black & Veatch (BV) to manage the project

Project Title: The San Antonio Community Energy Resiliency Program

Project Objectives The objective of the San Antonio Community Energy Resiliency Program (CER) is to demonstrate and test Grid of the Future use cases to support resiliency, decarbonization goals and overall service improvements for CPS Energy customers.

Project Description The CER Program is comprised of four projects

- **Smart Grid corridor:** Demonstration of Fault Location Isolation Restoration (FLISR), Volt Var Optimization (VVO) alongside Microgrids
- **Self-healing Grid:** Demonstration of Self-Healing and Islanding Capabilities
- **Substation of the Future:** Add BESS and renewable energy at substations. Demo reactive voltage and peak shaving contingency
- **Grid Orchestration Platform:** enabling situational awareness and tools for grid management

Methods to be Employed: Installation of substation storage systems with field devices combined with installation of integration software (ADMS/DERMS)

Potential Project Impacts

The CPSE Community Energy Resiliency Program aims to enhance the distributed intelligence capabilities of the CPSE smart meters, while also improving the distribution system through the inclusion of various components such as reclosers, fault sensors, capacitor banks, BESS, and controls. These technological advancements will enable CPSE to take advantage of intelligent sensing at the grid edge, utilizing smart meters, and distribution sensors, such as regulators and faulted circuit indicators. Furthermore, the integration of ADMS flow modeling and controls will provide CPSE with the necessary system planning, engineering, and integration capabilities to support variable renewable energy resources on the grid. By implementing DERMS and integrating it with the ADMS, CPSE will be able to effectively support the increasing adoption of distributed generation and new loads on the system.

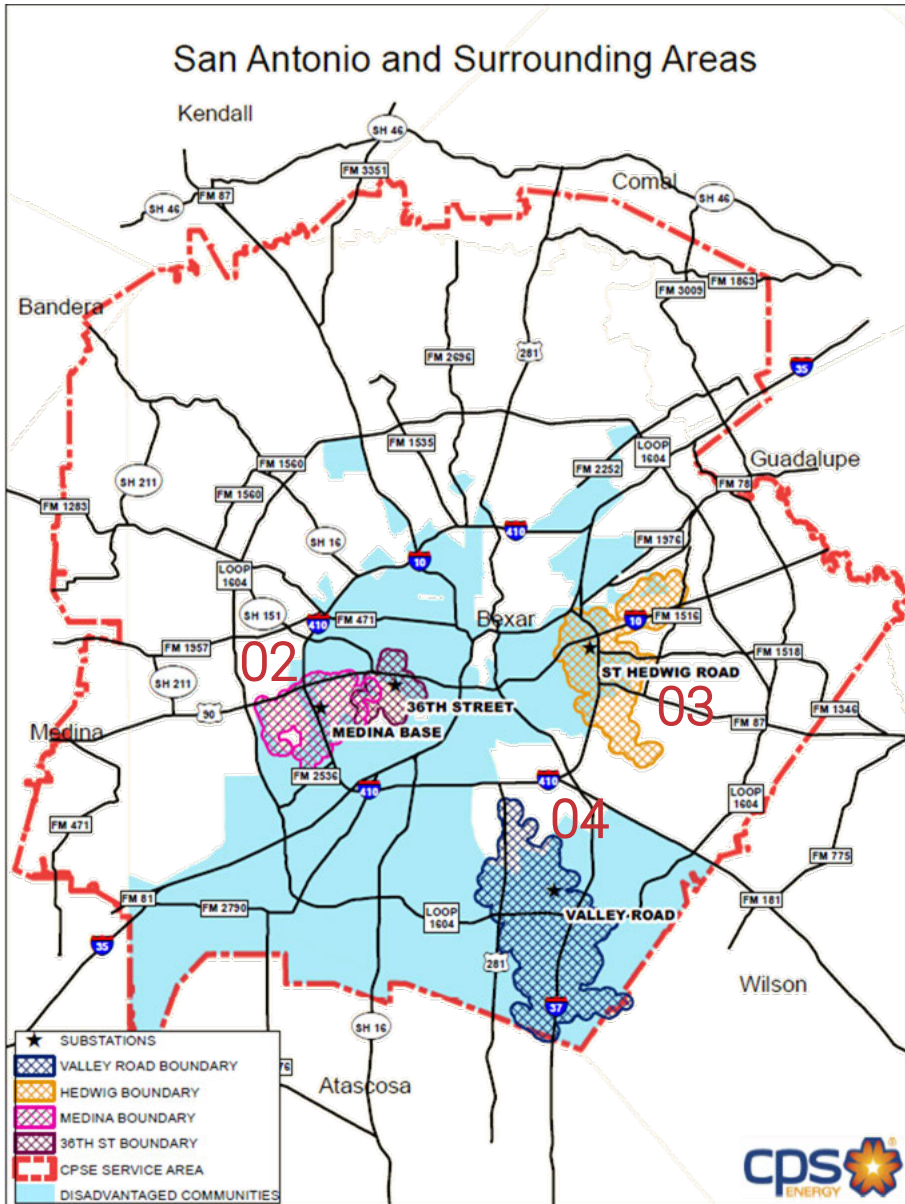
Project Title:	CPS Energy Community Energy Resiliency Program
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Project Objective:	<ul style="list-style-type: none">• With the significant growth in load and DER demand, CPS Energy needs to deliver robust grid modernization and resiliency that will be required to address the accelerating changes on the horizon. CPSE believes that one way to address the change is to build a “Grid of the Future” (GoF).• The CPS Energy Community Energy Resiliency Program will better grid orchestration through the management and optimization of DER (microgrids, solar, battery storage) and smart grid technologies such as FLISR and VVO.• The GoF goal is to ensure that the grid is reliable, secure, and efficient, and that it can meet the evolving needs of consumers and businesses in a sustainable manner.
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Prime Recipient:	CPS Energy	Requested DOE Funds:	\$60.4 MM with 50% cost share
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Project Manager:	CPS Energy in partnership with Black & Veatch
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Key Personnel:	Ricardo Maldonado, P.E. Guillermo De Hoyos, P.E. George J. Tamez	Vice President, T&D Engineering, CPS Energy Director, Grid Transformation & Innovation, CPS Energy Director, Grid Transformation & Planning, CPS Energy
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Community Energy Resiliency Program

01 Distribution Grid Orchestration

Platform that allows for DERs and Distribution Automation to work together to enable Self-Healing Grid with Islanding capabilities, provide better grid resiliency with microgrids and create peak shaving, reactive voltage compensation or congestion relief for transmission during summer/winter peaks.

02 Smart Grid Corridor

Deploy distribution automation and coordinate with a local microgrid with 8MWhr Battery Energy Storage System and two 2MW gas generators to improve resiliency and reliability of the substation and the circuits. Partner with local STEM museum to educate on Grid of the Future.

03 Self-Healing Grid

Expand on Smart Grid corridor by adding 40 MWhr Battery Storage and smart inverters to a solar park implementation to create islanding capabilities to improve resiliency. Nearby Educational or Magnet Schools or Resiliency Hubs could play the role of Resilient Center during major storm events.

04 Substation of the Future

Demonstrate the Substation of the Future architecture of collocating renewable generation and battery storage nearby a substation to alleviate voltage and peak congestion to ease the burden on long-haul transmission. Also provide resilient support to a water treatment facility.

No lobbying activities to be awarded grant

CPS Energy has not done any lobbying to be awarded this grant therefore Form SF-LLL Disclosure of Lobbying Activities does not apply to CPS Energy's application.

No Foreign Entity or Foreign Work for this Application

CPS Energy is organized under the laws of the United States and has a physical location for business operations in the United States therefore no Foreign Entity Waiver request is required for this application. CPS Energy's work under this application will be performed in the United States therefore no Foreign Work waiver request is required for this application.

Buy America Requirements Waiver

CPS Energy (CPSE) intends to comply with as many of the Buy America requirements as possible. However, out of an abundance of caution, CPSE submits this waiver request due to the continued supply chain and procurement difficulties created by the pandemic. An essential component of the proposal includes energy storage batteries. Market research shows that most energy storage batteries are manufactured in China. CPSE has not yet solicited bids for the construction materials needed for this project but when it does, it will make a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with potential suppliers. If no waiver is issued, CPSE may not be able to go forward with this project.

Applicant Name and Unique Entity Identifier

CPS Energy (b) (4)

Total estimated project cost, DOE and cost-share amounts

Total Estimated cost is \$60.4M with DOE cost sharing being 50% of \$30.2M.

Project Description and Location

CPS Energy's application describes our innovative approach to deploy battery energy storage in combination with distribution automation technology to deliver a resilient grid of the future. This plan describes how we will deliver value to our community, our workforce and our most vulnerable community members. The locations are detailed in LOW.XLS.

List and Description of Iron or Steel item(s), manufactured goods, and construction material(s) (including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each)

Most energy storage batteries are manufactured in China and range in cost between (b) (4) and (b) (4)

Community Benefits Plan

Executive Summary

CPS Energy is pleased to submit this Community Benefits Plan to the US Department of Energy (DOE) as part of our application in support of the San Antonio Community Energy Resiliency Program. This document describes the community and labor engagement strategies CPS Energy will use to support the four core policy priorities identified by the DOE:

- Ensure broadly shared prosperity in the clean energy transition
- Promote a healthy and skilled workforce
- Advance diversity, equity, inclusion, and accessibility (DEIA)
- Support environmental goals

CPS Energy is more than just a utility company, we are a partner to the community that works transparently and collaboratively to support key decisions, innovation, and economic growth for the City of San Antonio. We accomplish this through a strong and ongoing commitment to community and labor engagement with a range of local stakeholders such as labor unions, local governments, educational institutions and community-based organizations.

As the nation's largest electric and gas municipally-owned utility, CPS Energy is committed to the DOE policy priorities and expects to leverage our existing platform of community engagement and workforce development programs to ensure a strong community and promote advancements in diversity, equity, inclusion, accessibility, in addition to strengthening environmental justice.

As seen firsthand in recent years in Texas, electrical reliability and resiliency are of the utmost importance for public safety and prosperity. Therefore, any measures to strengthen those attributes are worthwhile. With a Grid Resilience and Innovation Partnerships (GRIP) grant, CPS Energy can more efficiently and proactively mitigate weather hazards within our community by accelerating our grid investment plans. Doing so will help us better serve our customers and our community – our constituents.

(b) (4)
Of this amount (b) (4) is estimated to accrue directly to customers residing in disadvantaged areas in San Antonio. Over the 20-year life of the Program, this amounts to (b) (4) in economic benefit to disadvantaged communities in San Antonio.

In addition to this community benefit, we are excited to announce an educational partnership with the (b) (4)

We will also continue to support faculty and graduate research at the Texas Sustainable Energy Research Institute at University of Texas San Antonio. Our other community partners include the (b) (4)

CPS Energy's application describes our innovative approach to deploy battery energy storage in combination with distribution automation technology to deliver a resilient grid of the future, This plan describes how we will deliver value to our community, our workforce, and our most vulnerable community members.

Introduction

The CPS Energy Community Benefits Plan is informed by three principal elements: our updated mission, our existing platform of community and workforce engagement programs, and our new energy equity strategy; the energy equity strategy utilizes insights into distribution system planning from recent research conducted with Sandia National Laboratory.

CPS Energy's values inform our decision-making and guide how we work collaboratively to serve San Antonio. We are committed to reducing our carbon footprint and transitioning to a clean energy future. Moreover, we are dedicated to enabling all customers to enjoy the benefits of cleaner energy, to make informed energy decisions, and to access our energy efficiency programs. In mid-2022, we updated our mission to reflect our strengthened commitment to promoting energy equity and reducing energy burden.

Our updated mission serves our community through reliable, competitively priced, equitable, and sustainable energy services. We deliver on this mission through daily dedication to community service and an innovative and diverse platform of community and labor engagement programs. Lastly, in responses to recent events and growing awareness that the path to a clean energy future needs to be available for everyone we serve, we have reaffirmed our commitment to energy equity and reducing energy burden by developing an energy equity strategy.

CPS Energy Evolving Approach to Energy Equity and Resiliency Planning

In recent years, CPS Energy has embarked on an actionable path toward designing more resilient communities through consequence-based approaches to grid planning and investment.¹

In October 2019, the City of San Antonio adopted the SA Climate Ready Climate Action & Adaptation Plan (CAAP). CPS Energy adopted the CAAP which guides our commitment to reach carbon neutrality by 2050. The Plan contains 28 Mitigation Strategies to reduce Greenhouse Gas Emissions and 45 Adaptation Strategies to strengthen resiliency to prepare for increased extreme weather due to climate change with a focus on equity. This Program aligns with the CAAP from both a mitigation and adaptation perspective, as it helps build climate resiliency, transitions workforce, includes energy storage, advances education, partners with our local community, addresses energy equity and helps protect the most vulnerable areas of our community

In 2021, CPS Energy partnered with a Sandia National Laboratories (Sandia)-led consortium to develop and demonstrate a framework for community resilience planning focused on modernizing the electric grid. Funded by the DOE, the Designing Resilient Communities (DRC) Project involved a consortium of government, industry, and university partners. The objectives of the consortium study included the following:

1. Solidifying – through demonstration, community outreach, verification, and gap analysis – a framework for community resilience planning focused on grid modernization and

¹ Resilience events are defined as low-probability, high-consequence events that are commonly not fully addressed under traditional power system reliability-focused planning. Examples might include massive wildfires, cyberattacks, or crippling winter storms that exceed design standards.

investment involving the key stakeholders in the community, including the electric utility and citizen stakeholder groups.

2. Setting a clear, actionable path toward adoption of community-focused resilience planning within the grid community.

Key Lessons Learned About Building Resilient Communities

The DRC Project identified a critical gap between community and electric utility resilience planning. To address this gap, the project investigated how coordinated grid investment can support resilient community design and how electric utilities of various configurations can plan for resilience and benefit from grid resilience investments. A key component of coordinated grid investment involves the active inclusion of community stakeholder advisory groups (SAG) which provide three key roles:

1. Provides feedback on unique aspects of the SAG operating contexts that enable or discourage alignment of community resilience planning and electric grid modernization.
2. Provides input on technical and regulatory solutions for the project and provides research, analysis, and advice help establish an actionable path toward widespread adoption of this consequence-based resilience planning approach among electric utilities, municipal governments, and energy regulators.
3. Enables information exchange about the emerging technologies that can provide grid resilience and addresses how these technologies can provide community resilience.

With respect to energy equity, grid planning processes can be inaccessible to vulnerable and disadvantaged communities, which often bear a disproportionate burden of long duration widespread outages (e.g., because of slower restoration times). Planners need to both dedicate resources to proactively engage and incorporate the perspectives of these communities in resilience planning processes and to assess how alternative resilience investments would affect grid performance and consequences for these communities.

The DRC Project also evaluated how the concept of energy burden can be incorporated into resiliency planning. Energy burden is defined as a social resilience metric that quantifies the effort that society must expend to achieve a basic level of life-sustaining capability. To identify and quantify energy burden in San Antonio, the DRC Project surveyed the community. Households with a high energy burden are those that spend more, as a percentage of household income, on electricity and natural gas.

Incorporating Stakeholder Perspectives Is Critical for Building Resilient Communities

The DRC Project demonstrated that designing resilient communities is best accomplished by incorporating diverse stakeholder perspectives so that the roles and responsibilities of regulators, utilities, communities, and other stakeholders are reflected in resilience planning processes. Regulators, utilities, and communities are each able to pilot the next-generation collaborative approaches identified through the project.

The DRC Project also identified how the City of San Antonio and CPS Energy are uniquely positioned to collaborate on the design of resilient communities. The City of San Antonio is the seventh largest city in the United States, spanning over 465 square miles with 1.5 million residents. CPS Energy, the electric utility for the city and portions of surrounding counties, is the nation's fifth largest municipal electric utility, with over 907,000 electric customers served. CPS

Energy's status as a municipal utility provides unique advantages that enable us to efficiently justify investments that demonstrably benefit community resilience. CPS Energy is municipally-owned and is regulated by a Board of Trustees who are elected by the San Antonio City Council. This structure gives CPS Energy a natural and direct connection to the goals and needs of the city as identified by city government. Given this ownership structure, municipal utilities and cooperative utilities may be the first adopters of the designing resilient communities paradigm, including consequence-based resilience planning.

Building a Community-Based Approach to Energy Equity and Resilience Planning at CPS Energy

In parallel with the Sandia-led project to develop a framework for community resilience planning, CPS Energy has taken steps to build and execute an energy equity strategy.

In 2022, we updated our mission to include energy equity which we define as improving access for those impacted by a high energy burden. Our revised mission statement now reads: To serve our community through reliable, competitively priced, and sustainable energy services in an *equitable* manner.

CPS Energy also created two new roles, a Senior Director of Equity Community Strategy, and Engagement, and Senior Manager, Energy Equity. Reporting to the Vice President for Community Relations; these roles are tasked with leading efforts within CPS Energy to provide awareness, outreach and removing barriers while collaborating with partners to identify and provide access to products, services, and support for community members with the highest *energy burden*.²

Building on the concept of social burden identified in the DRC Project, CPS Energy defines *energy burden* as **Annual Service Availability + Annual Consumption/Annual Income**.

Households with a high energy burden are those that spend 6% (10% for severe energy burden) or more of total household income on electricity and gas costs. Energy burden in San Antonio is more pronounced compared to other major metropolitan areas.

CPS Energy Approach to Reducing Energy Burden and Advancing Energy Equity

To address the concerns of energy burden and advance energy equity in San Antonio, the CPS Energy equity strategy has five areas of focus:

1. Engagement
2. Programs, Products, and Services
3. Addressing Energy Burden
4. Accessibility
5. Awareness

In terms of engagement, the CPS Energy strategy for energy equity supports the following:

- Engaging customers with relevant programs, information, and services to achieve equitable outcomes.
- Organizing employees to understand how to shift individual and departmental behaviors to produce more equitable opportunities and results.

² The CPS Energy team responsible for the energy equity strategy at the company includes Jesse Hernandez, Senior Director of Equity, Community Strategy, and Engagement, and Andrea Guadarrama, Senior Manager, Energy Equity.

- Aligning with our DEIA goals by working with low income and moderate-income customers.
- Evolving programs and collaboration with other organizations to address energy needs to ensure they can participate and benefit from programs.
- Ensuring that outreach efforts are targeted appropriately.

CPS Energy Community Energy Resiliency Program Community Benefits Plan

CPS Energy is a supporter of the DOE’s vision of building a clean and equitable energy economy. Our Community Benefits Plan describes an actionable approach to addressing four key goals:

- Providing meaningful support to community and labor engagement.
- Investing in America’s workforce.
- Advancing diversity, equity, inclusion, and accessibility.
- Contributing to the President’s goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities (the Justice40 Initiative).

CPS Energy Approach to Resiliency and Energy Equity

Our Community Benefits Plan is based on three things: our new mission, our catalog of existing programs to engage with the community and workforce, and our new energy equity strategy, which captures the lessons of recent events, to promote fairness in all aspects of energy delivery, including affordability and resiliency.

Not only do we see strong parallels between our ongoing efforts to increase community engagement, reduce energy burden, and advance energy equity and the DOE’s four priority policy areas, but we are confident that we can use our existing platforms to execute our Community Benefits Plan.

Our work to advance energy equity, lessen the impact of energy burden, and continue to serve as a community partner does not start with receiving funding from the DOE nor will it end with completion of the Program. CPS Energy recognizes an opportunity to leverage DOE GRIP funding to accelerate our ongoing efforts to reduce energy burden and advance energy equity.

Community and Labor Engagement

As a municipal utility, we are a community partner that works transparently and collaboratively to support key decisions, innovation, and economic growth for the City of San Antonio. Our commitment to community and labor engagement includes a range of local stakeholders such as labor unions, local governments, and community-based organizations.

Community Engagement

An essential part of CPS Energy’s mission is to connect, listen, and engage with community partners, including schools, churches, community centers, and resource centers, to gather feedback and better understand their interests, concerns, and emerging needs. Collaboration across many groups is vital to identifying and addressing each specific group’s needs.

Community partners stay informed and involved through diverse channels of engagement.

CPS Energy’s commitment during the past year has resulted in participating in over 600 community events, hosting 182 partner meetings, visiting 50 neighborhoods, making more than 14,000 calls, distributing nearly 37,000 door hangers, knocking on over 2,500 doors, and making over 725,000 collection touchpoints to inform customers of the status of their account and to

connect them to the assistance they need. Through these efforts, the utility connected customers with over \$12.2 million in ARPA funds and over \$45 million in utility assistance.

We support and engage with our community through financial sponsorships, volunteerism, and community partnerships and events. Our community engagement activities comprise several ongoing programs:

- **Community and Civic Engagement:** Programs that have team members serving on boards; and/or programs aimed at improving customer relations, increased customer awareness, and/or visibility of CPS Energy.
- **Economic and Business Development:** Programs that strengthen and diversify San Antonio's economy through business recruitment, retention, and expansion; and programs that support innovation, job creation, or advance CPS Energy business objectives.
- **Education and Workforce Development:** Education programs that promote math, science, engineering, and technology; improve workforce skills; or encourage individual development through scholarships, mentoring, and internships; and professional memberships contributing to the development of our workforce.
- **Environmental Conservation and Stewardship:** Programs to improve the quality of our environment; promote environmental education, conservation, and preservation; or support the development of cleaner sources of energy.
- **Safe and Efficient Use of Energy:** Programs contributing to energy policy dialogue or engagement.
- **Volunteerism:** Programs to lend a helping hand. Our more than 3,000 employees, retirees, and our families are here to support our local nonprofits through volunteerism.

Community and Civic Engagement

CPS Energy employees serve on local, state, and national boards such as Electric Power Research Institute, greater: SATX, United Way of San Antonio, San Antonio Manufacturing Association, San Antonio Chamber of Commerce, Texas Public Power Association, and Alamo Area Council of Governments, among others. In addition, our community and civic engagement programs include several standing committees.

Citizen's Advisory Committee (CAC) Meeting monthly, this 15-member committee serves as communication channel between the community and the utility for our projects and programs.

CPS Energy Rate Advisory Committee (RAC) This committee provides input and perspectives to CPS Energy management and Board of Trustees on rate structure, rate design, proposed rate increases, and generation planning issues.

Additional Community Engagement Activities

The CPS Energy Community Engagement team, including our Customer Response Unit (CRU), spends many hours in the community getting to know customers and helping them find and enroll for assistance programs for which they qualify. We host community program fairs, American Rescue Plan Act (ARPA) events, and other functions to raise awareness about assistance programs and energy efficiency rebates. Team members provide customers with advice and information to optimize energy consumption and lower energy bills. The Public

Safety and Education team gives demonstrations to the public and educates first responders, contractors, school children, and others about electric and natural gas safety.

As many of our community engagement activities are designed to lessen energy burden and promote energy equity, these programs are further described in the Justice40 section below.

Education Partnerships and Programs

Education remains one of CPS Energy's top priorities. CPS Energy supports educational programs through corporate sponsorships, internship and mentoring programs, scholarships, and employee involvement in vital educational initiatives throughout San Antonio.

Through a unique partnership with private entities, academic institutions, and energy thought leadership, CPS Energy created [Smart Energy Education \(SEE\)](#), a collection of online programs and resources for students, educators, professionals, and communities designed to boost energy literacy. These free, dual language and Texas Essential Knowledge & Skills teaching resources align with the utility's community investment to advance educational opportunities and Science, Technology, Engineering, the Arts, and Mathematics (STEAM) studies. For younger learners, graduates, and individuals interested in energy careers, we remains active in secondary STEAM education with the Tobin Center for the Performing Arts, the DoSeum, CAST Schools (Centers for Applied Science and Technology), and SAMSAT (San Antonio Museum of Science and Technology). Our strategic partnerships with KLRN, Communities in Schools-San Antonio, City Year San Antonio, and area school districts empower student excellence.

In addition, we sponsor and participate in several educational events in the community. This year's events include the following:

- February 25 - SEE Your Future Career Day
- March 21 - Thirst for Power
- Spring Watt Watchers Teacher Training
- May 24 - Mayor's SA Smart Competition Finals
- Fall Watt Watchers Teacher Training

Education about the San Antonio Community Energy Resiliency Program will be incorporated into these ongoing education support activities. As part of the Program, we envision targeting our local STEAM magnet schools to sponsor and participate in student education and teacher training opportunities related to energy and sustainability

San Antonio Community Energy Resiliency Program – SAMSAT Education Project

As part of the Program, CPS Energy will partner with the San Antonio Museum of Science and Technology (SAMSAT) to develop a curriculum for students to learn about the Grid of the Future. We envision creating an exhibit at the Museum to provide STEAMS-focused hands-on learning experiences about sustainability, energy, and new technology. Moreover, SAMSAT, with the direct support of CPS Energy, will be able to use, curate, and display actual energy resilience systems to students and to the public. SAMSAT is committed to expanding its educational programs to demonstrate the promise of a Smart Grid. Specifically, the museum has pledged to develop a new Smart Grid curriculum for K-12 school children to be taught by museum staff during field trips to its location.

University of Texas San Antonio (UTSA) – Texas Sustainable Energy Research Institute Education Project

CPS Energy sponsors the Institute’s on-going research projects. Our support has contributed to UTSA’s recognition as a top-tier research university. We will work closely with the Institute to sponsor and fund research activities related to the Program and the Institute will provide and gain benefit from the Program through continued support of research projects including:

- (b) (4) [REDACTED]
- [REDACTED]

Economic and Business Development

We donate nearly \$1.3 million annually for corporate sponsorships supporting education, environmental awareness, conservation, and economic development to promote the local economy develop new business opportunities. In 2011, CPS Energy launched the New Energy Economy program to foster development of renewable energy sources in San Antonio and across Texas. We partner with multiple innovative companies to bring cleaner, more efficient energy to the region and create new job opportunities in the San Antonio area while positioning San Antonio as a pioneer for clean energy innovation. We have executed agreements with our partners to hire and train residents and to contribute to a CPS Energy administered fund for scholarships and activities. To date, this arrangement has resulted in over \$500,000 in contributions from our partners.

Labor Engagement

CPS Energy promotes an engaged, highly skilled workforce to fulfill our mission of serving the community through reliable, competitively priced, and sustainable energy services.

As part of our partnership with the International Brotherhood of Electrical Workers (IBEW), we will leverage our Department of Labor-approved National Joint Apprenticeship and Training Committee (NJATC) to provide training as part of the Project. This dedicated program builds and advances the skills necessary to meet the needs of the electric utility industry. Additionally, our NJATC program contributes to higher productivity, improved quality and safety, and greater job opportunity and skill development for employees and will have a direct impact on the success of the Program. Our commitment to partnering with local and diverse companies, including subcontractors, as further explained in the DEIA section of our Plan, will also contribute to economic growth of San Antonio through our work with local businesses.

Environmental Conservation and Stewardship

CPS Energy works to improve the health of the community, conserve valuable resources, and inspire other companies and individuals through our environmental programs via partnerships with the Girl Scouts of Southwest Texas, Green Spaces Alliance, and HemisFair, along with community outreach events such as the Monarch Butterfly and Pollinator Festival and Run the River, we support and invest environmental awareness and conservation programs.

Safe and Efficient Use of Energy

CPS Energy operates several programs to promote energy efficiency and safety. Our Public Safety and Education team gives demonstrations to the public and educates first responders,

contractors, school children, and others about electric and natural gas safety. For our small- and medium-sized business owners, we created an Energy2Business outreach program to provide energy efficiency upgrades. For our residential customers, our Casa Verde (Green Home) program – further described in the Justice40 section below – provides whole-home weatherization upgrades at no cost to qualified customers.

Community and Labor Engagement Measures

Our current community commitments is included in the Community Engagement portion of our Community Benefits Plan. Key activities include the following:

- Community input on the next iteration of our energy efficiency and conservation program
- Community input on our power generation resource plan
- Community input on rate design measures

Key Community and Labor Engagement Impact Measures

- Community impact
- Partner engagement strategy
- Energy efficiency goals

Diversity, Equity, Inclusion, and Accessibility

Local and Small, Minority, Women, and Veteran Owned Businesses

CPS Energy provides contracting opportunities to all businesses including local and small, minority, women, and veteran owned business (SMWV) and we have a long history of awarding contracts to certified SMWV businesses. In 2022, we spent \$559 MM (73% of all purchase orders) with businesses located in the San Antonio Metropolitan Statistical Area, and more than \$332 million with diverse firms identifying as small-, minority-, women-, or veteran-owned. This figure represents an increase of more than 28% over SMWV spending in 2021. Our 2022 spend with minority-owned businesses was nearly \$100 million dollars directly spent—an 11% increase over the total spending in 2021.

As part of the Program, CPS Energy will continue to partner with local, small, and diverse vendors. We have adopted an aggressive strategy to encourage participation by diverse vendors in our procurement process. We continue to leverage strategic partnerships—from the Maestro Entrepreneurship Center and the Center for Government Contracting to League of United Latin American Citizens and the Fair Contracting Coalition—to speak directly to small business owners, ensuring that they are registered with CPS Energy and prepared to bid on CPS Energy projects, including the San Antonio Community Energy Resiliency Program. We will continue to engage our local, small, and diverse vendors through targeted outreach to ensure contract opportunities are made available to all seeking to do business with our organization and contribute to the success of our community.

In addition to our commitment to supplier diversity and identification of SMWV partners, we offer the following:

1. Partnerships with workforce training organizations serving underrepresented individuals.
2. Anti-bias training and education to prevent discrimination and unconscious bias.
3. Support for quality apprenticeship-readiness and/or pre-apprenticeship programs.

Diversity of Our Workforce

Our commitment to diversity is demonstrated by the diversity of our workforce as compared to the community we serve. According to the US Census,³ the Hispanic/Latino and African American communities represent 66% and 7% of our community, respectively. Our employee workforce is composed of 54% and 5% of Hispanic and African Americans, respectively.

We remain committed to promoting diversity, accessibility, and inclusion in our San Antonio Community Energy Resiliency Program across both the workforce and suppliers that will support the Project.

DEIA Measures

- CPS Energy annual spending with diversity suppliers
- CPS Energy spending with diversity suppliers for the Project
- Number of partnerships with workforce training organizations serving underrepresented individuals

Investing in US Workforce

Commitments to support workforce education, training, and safety

We are committed to promoting a strong and highly skilled workforce. Working with local educational partners, in collaborations with Alamo Community Colleges, SAWorks, and JBSA Career Skills, we help develop our talent pipeline and that of the entire community. We develop our people throughout their career and empower them to take actions that make a difference. Our approach to controls, safety, and wellbeing reinforces the important role they play in helping everyone go home safe every day. Through a competitive benefits package, we attract and retain people who care about our mission to serve.

CPS Energy has a long-standing partnership with the IBEW and developed the Department of Labor-approved NJATC program, which builds and advances the skills necessary to meet the needs of the electric utility industry.

CPS Energy has openly committed to retrain any employees displaced by our sustainable energy plan. Displaced employees are retrained to prepare them to install, operate, and maintain our distribution grid resiliency investments. CPS Energy also has a partnership with the National Association of Public Employees (NAPE), which is a San Antonio-based union, to encourage public employee advancement. The NAPE membership at CPS Energy is made up of skilled craft and salaried employees within the organization.

Efforts to engage employees in the design and execution of a workplace safety and health plan to safeguard worker health and wellbeing

Both organized labor organizations, IBEW and NAPE, work with CPS Energy management to update the Manual of Working Conditions, which provides guidance on conditions covering hours of work, pay for overtime, sick leave, holiday pay, promotions, etc. .

Our Commitment to Promote Workforce Development in San Antonio

CPS Energy supports [Ready to Work San Antonio](#). Launched in 2022, this program enables community residents to receive in-demand skills training aligned with opportunities at CPS Energy, ranging from skilled craft to IT technical positions. This program provides a pipeline of

³ [U.S. Census Bureau QuickFacts: San Antonio city, Texas](#)

in-demand well-trained candidates for our often challenging-to-fill occupations and currently has over 1,500 people in the training stage of the program.

CPS Energy's Distribution Apprenticeship Program Overview

CPS Energy supports workforce education by local recruiting and entry-level hiring for worker and trainee positions. Employees are trained internally through formal instructional training and on-the-job-training. CPS Energy's Electric Distribution Apprentice Training Program includes three key elements: formalized classroom training, apprenticeship training, and job exposure.

Formalized Training – We offer apprentices a lesson plan and associated learning materials to complete classroom, training grounds, and field training to ensure objectives are met. The CPS apprenticeship training plan was approved by the Department of Labor in June 2009

Apprenticeship Training - Apprentices attend internal NJATC classes 4 days per month throughout 9 months of their craft training. The NJATC curriculum provides standardized training to educate the members of the IBEW and the National Electrical Contractors Association.

Job Exposure - A job exposure booklet is used to plan and track the job tasks the employee will be exposed to during a specified period. Journeymen and foremen approve pre-identified job tasks upon an apprentice's successful completion of each task.

Employee Wellness and Benefits

CPS Energy's employee benefits are critical to retain and attract the highly skilled talent needed to run our complex business and meet the needs of our customers. Our award-winning wellness program enables health plan members manage chronic diseases, such as diabetes, heart disease, and related conditions and benefit from a reduction in health plan premiums

Compensation Strategies to Retain and Attract Talent

Investing in our people is a top priority. Over the past year, multiple compensation strategies were implemented to help us to align to the market more closely, including increasing our salary structure by 10%, providing a living wage increase to \$18 per hour in February 2022 (entry-level employees earning \$15 per hour received a 20% increase).

Performance Management Process

The CPS Energy performance management process measures performance against targeted performance goals and an established set of behaviors (i.e., core values and/or critical measures). Employees are engaged in working toward key performance goals that align to organizational and business unit/area strategies and objectives. The process provides continuous monitoring and a high level of coaching and feedback.

Equal Employment Opportunity and Anti-Harassment Training

CPS Energy provides a work environment free of harassment and discrimination. All employees are required to complete annual Equal Employment Opportunity and Anti-Harassment training.

Measures:

- Enterprise Engagement Score
- Safety Metrics
- Environmental Compliance

Justice40

CPS Energy is committed to the principles of Justice40. Over 60% of our Program's benefits will flow to disadvantaged communities due to specific targeting of improvements in energy reliability and resiliency. Our energy equity strategy extends the benefits of clean energy and infrastructure fairly and makes the transition to a low-carbon economy inclusive and sustainable. In addition to locating these grid modernization investments in disadvantaged communities, CPS Energy offers several programs to advance energy equity.

Outreach and education: CPS Energy administers customer education programs, particularly those in low-income and disadvantaged communities, about energy efficiency, conservation, and available programs and services to reduce energy bills. Our CRU group, as discussed above in the Community Engagement section executes these programs directly with customers.

Energy efficiency and renewable energy programs: We provide energy efficiency upgrades and renewable energy installations, particularly in low-income and disadvantaged communities. Our Casa Verde (Green House) weatherization program targets income-qualifying homeowners and renters with free energy efficiency programs. Our Sustainable Tomorrow Energy Plan (STEP) has reduced our community's energy demand by 771 megawatts since 2009, roughly the equivalent of a large power plant. A study has shown STEP helped save our customers 6.3 terawatt-hours of electricity, creating over \$553 million in bill savings.

Bill assistance programs: Our bill assistance programs offer low-income customers options including flexible payment plans and late payment waivers. The Residential Energy Assistance Partnership (REAP) is a non-profit foundation that helps San Antonio families in need to pay their utility bills. We contribute \$1 MM annually and administer the program's marketing, fundraising, and back office administrative requirements.

Tariff reform: As part of our energy equity strategy, we will elevate the perspective of energy equity and energy burden into our future rate structure design to ensure equity for all customers, regardless of income or location.

Community partnerships and Community Education: As discussed above, CPS Energy partners with community-based organizations, local governments, educational institutions, and other stakeholders to develop and implement programs that address energy equity and environmental justice as well as educate the community about energy and sustainability. These partnerships help us better understand the unique energy needs and challenges of different communities and develop more effective solutions.

Improved Energy System Reliability and Resiliency for Disadvantaged Customers

We estimate (b) (4) in annual economic value of reliability improvements of which (b) (4) will accrue to disadvantaged customers. To calculate the benefits, we used the DOE ICE Calculator⁴, a widely accepted tool, to quantify the benefits of a (b) (4) followed by geospatial analysis to determine the percentage of socio-economically disadvantaged customers served by each (b) (4). Over the Program's 20-year life, we estimate (b) (4) in economic benefit to disadvantaged communities in San Antonio.

Measures: (b) (4)

⁴ [ICE Calculator](#)

No potentially duplicative funding for this grant

CPS Energy does not have any other awards for federal funds that would overlap with the activities set forth in CPS Energy's application.

PROJECT DESCRIPTION AND ASSURANCES DOCUMENT

Project title:

Community Energy Resiliency Program

Applicant Name:

CPS Energy

Applicant Address:

500 McCullough Ave, San Antonio, TX 78215

Names of all team member organizations (if applicable):

Not applicable.

Principal Investigator (Name, Address if different than Applicant's, Phone Number, E-mail):

Ricardo Maldonado, (210)353-4604, rmaldonado@cpsenergy.com

Business Point of Contact (Name, Address if different than Applicant's, Phone Number, E-mail):

Guillermo De Hoyos, (210)-259-3080, ggdehoyos@cpsenergy.com

George Tamez, (210)-353-4678, GJTamez@cpsenergy.com

Include any statements regarding confidentiality.

Federal Share: \$30.2 MM

Cost Share: 50%

Total Estimated Project Cost: \$60.4 MM

Item 1: Specify (mark with "X") the FOA Topic Area and as applicable the Area of Interest (AOI):

_____ Topic Area 1: **Grid Resilience Grants** (BIL section 40101(c))

Topic Area 2: **Smart Grid Grants** (BIL section 40107)

_____ Topic Area 3: **Grid Innovation Program** (BIL section 40103(b)) – Area of Interest 1
(**Transmission** System Applications)

_____ Topic Area 3: **Grid Innovation Program** (BIL section 40103(b)) – Area of Interest 2
(**Distribution** System Applications)

_____ Topic Area 3: **Grid Innovation Program** (BIL section 40103(b)) – Area of Interest 3
(**Combination** System Applications)

TOPIC AREA 1 Specific Items:

Item 2: Specify (mark with "X") the entity type of the applicant organization:

- electric grid operator
- electricity storage operator
- electricity generator
- transmission owner or operator
- distribution provider
- fuel supplier

If further description is needed for the specified entity type, please provide below:

Item 3: Please provide the total amount (USD) of qualifying resilience investments (as outlined in DE-FOA-00002740) that has been spent for the previous 3 years. Please also provide the time period utilized for calculation of this amount.

Total Amount:

Time Period for Resilience Investments:

Note: Topic Area 1 applicants must submit as part of their application, a report detailing past, current, and future efforts by the eligible entity to reduce the likelihood and consequences of disruptive events. This report should include efforts over at least the previous 3 years and at least the next 3 years and any broader resilience strategy used by the applicant.

Item 4: Is the eligible entity a Small Utility as defined in DE-FOA-0002740 (sells no more than 4,000,000 MWh of electricity per year)? If NO is selected, skip to Item 7.

- Yes
- No

Note: If YES, applicant must provide their Form 861 for the last reporting year submitted to the Energy Information Administration (EIA).

Item 5: Per BIL section 40101(e)(2) (C) APPLICATION LIMITATIONS.—An eligible entity may not submit an application for a grant provided by the Secretary under subsection (c) and a grant provided by a State or Indian Tribe pursuant to subsection (d) during the same application cycle.

Therefore, is the eligible entity a Subaward/Subcontract recipient for an application submitted under IJA Section 40101(d), ALRD 2736? If “YES”, please describe the differences

between the GRIP FOA 2740 application [40101(c)] and the ALRD 2736 [40101(d)] applications in the box below:

_____ Yes

_____ No

TOPIC AREA 2 Specific

No items

TOPIC AREA 3 Specific

Item 6: Specify (mark with "X") the entity type of the applicant organization:

_____ a State

_____ a combination of 2 or more States

_____ an Indian Tribe

_____ a unit of local government

_____ a public utility commission

If further description is needed for the specified entity type, please provide below:

Item 7:

Authorized Organizational Representative (AOR): please provide name, address, phone number and email address for the authorized agent to bind the entity

Authorized Organizational Representative (AOR):

Name: Ricardo Maldonado

Address: 500 McCullough Ave, San Antonio, TX 78215

Phone: (210)353-4604

E-mail: rmaldonado@cpsenergy.com

Item 8: Signature of Authorized Organizational Representative (AOR)

_____ -

LOW

Location	Address	Longitude	Latitude	ZIP Code	City/Town	Congressional District Code
(b) (4)					SAN ANTONIO	TX-028
(b) (4)					SAN ANTONIO	TX-023
(b) (4)					SAN ANTONIO	TX-023
(b) (4)					SAN ANTONIO	TX-035