



STAFF REPORT

DATE: NOVEMBER 20, 2018
TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS
FROM: BILL SMITH, CITY MANAGER
PREPARED BY: DAVID KOLK, PUBLIC WORKS & UTILITY SERVICES DIRECTOR
SUBJECT: ADOPT RESOLUTION R-116-18 AUTHORIZING THE PARTICIPATION IN A PROFESSIONAL SERVICES AGREEMENTS BETWEEN SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY AND ICEENERGY TO PURCHASE AND INSTALL "ICE BEAR" ENERGY STORAGE UNITS. RESOLUTION R-116-18

RECOMMENDED ACTION

Staff recommends that the City Council take the following action:

Approve Resolution R-116-18 authorizing the following:

1. The participation in a Professional Services Agreement between Southern California Public Power Authority (SCPPA) and Ice Energy to purchase and install Ice Bear energy storage units;
2. Amending the budget for Fiscal Year 2018-19 to appropriate an additional \$53,312 of Cap and Trade proceeds in the Electric Department for air conditioning replacement;
3. Authorize the City Manager to execute a letter of participation with SCPPA; and
4. Authorize the City Manager to approve change orders up to 10% for unforeseen changes.

BACKGROUND

It is widely recognized that air-conditioning is one of the most significant contributors to overall energy consumption that contributes to peak demand during the summer season. Residential and commercial air conditioning together comprise about 30% of electrical demand on-peak, approximately 16,000 Megawatts in California, and can stress the distribution grid to a greater extent than any other single load. This extreme, temperature dependent, peak demand continues to grow as more and more families and businesses rely on air conditioning to keep their homes and businesses cool and comfortable. This is causing significant concerns for the state's electric reliability, poor asset utilization and negative environmental impacts.

The City of Colton Electric Department (CED) can mitigate some of this peak demand by installing Ice Bear thermal energy storage on City facilities. In August of 2017, the City Council approved the Electric Department's plan to replace two air conditioning (AC) units at the Luque Community Center as a pilot demonstration for thermal energy storage. The pilot program was successful, resulting in the utility performing an audit of the AC units at all City facilities. The audit results identified five City Buildings that can benefit from the replacement of 11 existing AC units with Ice Bear 20 energy storage cooling units.

Assembly Bill (AB) 2514 (Skinner, Chapter 469, Statutes of 2010), amended by Assembly Bill 2227 (Bradford, Chapter 606, Statutes of 2012), was designed to encourage California to incorporate energy storage into the electricity grid, as codified at Public Utilities Code § 2835-2839 and § 9506. Energy storage can provide a multitude of benefits to California, including supporting the integration of greater amounts of renewable energy into the electric grid, deferring the need for new fossil-fueled power plants and transmission and distribution infrastructure, and reducing dependence on fossil fuel generation to meet peak loads. The Ice Bear Unit shifts the energy and demand of cooling from on-peak to off peak times for a maximum of up to 6 hours daily.

Since the Ice Bear also acts as a thermal energy storage unit, the CED can use the additional 11 units as a qualifier for energy storage, enabling compliance with the mandates of AB 2514.

ISSUES/ANALYSIS

The Ice Bear operates by shutting off its self-contained compressor as scheduled and automatically dispatching an equivalent amount of energy storage cooling energy from the Ice Bear unit. Whenever cooling is required outside the period of time when the cooling is provided from the stored cooling energy, the Ice Bear Units compressor provides up to 5 tons of cooling operating like a conventional AC unit.

Staff recommends that participating in a professional services agreement between SCPPA and Ice Energy will not only provide the City with the air conditioning units it needs but provide the Electric Utility with Energy Storage mandates to report to the State on an annual basis.

The audit of the City's AC units identified the following 11 AC units to be replaced with the Ice Bear technology:

<u>Site Name</u>	<u>Location of AC</u>	<u>System Type</u>	<u>Year</u>	<u>Tons</u>
Fire Station #214	Ground	Split System Condensing Unit	2007	3
Fire Station #214	Ground	Split System Condensing Unit	1989	3
Fire Station #214	Ground	Split System Condensing Unit	1989	3
Fire Station #214	Ground	Split System Condensing Unit	1989	3
Fire Station #212	Roof	Condensing Unit	2004	3

Fire Station #213	Roof	Packaged Gas/heating system	2007	3
Water Treatment Plant	BR, Ground	Condensing Unit	2011	4
City Hall (Split-5)	Roof	Condensing Unit	2005	5
City Hall (Split-6)	Roof	Condensing Unit	2005	5
Luque Center-Library	Roof	Condensing Unit	1990	5
Luque Center-Library	Roof	Condensing Unit	1990	5

The City of Colton Electric Department will provide the replacement of the remaining 124 air conditioners in a priority sequence based on age and size. The Gonzales Center, City Hall and the Electric Department Air Conditioners will go out to bid this fiscal year and the remaining AC's will be budgeted the following fiscal year.

FISCAL IMPACTS

The City Council previously authorized Cap and Trade funds, in the amount of \$300,000, in Fiscal Year 2018-19, in the Electric Department Capital Improvement Account Number 520-8000-8001-3890-0107-000. Funding in the amount of \$20,245 has already been expended or encumbered for the replacement two AC units at the Gonzales Center, Room 1 and at the Development Services Department. Currently there is \$279,755 available in the original appropriation of Cap and Trade funds for AC replacements.

The total cost of the 11 Ice Bear units is \$302,788. Resolution R-116-18 will increase the appropriation of Cap and Trade funds in Account Number 520-8000-8001-3890-0107-000 by \$53,312. This amount will be sufficient to cover the cost of the replacement and allow for a 10% contingency for unforeseen change orders to the project.

ALTERNATIVES

1. City Council may provide alternate direction to staff.

ATTACHMENT

1. 11-20-18 Resolution R-116-18 AC Replacement Program
2. Ice Energy Colton IB20 Proposal 10_24_2018