



City of Arts & Innovation

City Council Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL **DATE: MAY 17, 2022**

FROM: PUBLIC UTILITIES DEPARTMENT **WARDS: ALL**

SUBJECT: SERVICES AGREEMENT WITH ICE BEAR SPV #1 LLC DBA THULE ENERGY STORAGE TO PROVIDE THE COOLDATA PLATFORM AND PREVENTATIVE MAINTENANCE FOR 111 ICE BEAR UNITS IN THE CITY AND OPTIONAL, AS-NEEDED BREAK-FIX REPAIR SERVICES FOR A FIVE-YEAR TERM IN THE AMOUNT NOT-TO-EXCEED \$705,603

ISSUES:

Approve the Services Agreement with Ice Bear SPV #1 LLC dba Thule Energy Storage to provide the CoolData Platform and Preventative Maintenance for 111 "Ice Bear" units currently installed in the City and optional, as-needed Break-fix repair services, for a five-year term in the amount not-to-exceed \$705,603.

RECOMMENDATIONS:

That the City Council:

1. Approve the Services Agreement with Ice Bear SPV #1 LLC dba Thule Energy Storage to provide CoolData Platform and Preventative Maintenance Services and as-needed Break-fix repair services for a five-year term in the total amount not-to-exceed \$705,603; and
2. Authorize the City Manager, or his designee, to execute the Agreement and any documents necessary to administer the Agreement, including making minor and non-substantive changes.

BOARD RECOMMENDATION:

On December 13, 2021, the Board of Public Utilities, voted unanimously to recommend that the City Council approve the Services Agreement with Ice Bear SPV #1 LLC dba Thule Energy Storage to provide the CoolData Platform and Preventative Maintenance for 111 "Ice Bear" units in the City and optional, as-needed Break-fix repair services for a five-year term in the amount not-to-exceed \$705,603.

Staff notes that subsequent to the Board of Public Utilities' approval of this item, the subject Services Agreement has been re-signed by a current representative of Thule Energy Storage with an effective signatory authority.

LEGISLATIVE HISTORY:

Assembly Bill (AB) 2514 enacted in 2010, amended by AB 2227 in 2012, mandated each California electric utility to evaluate the viability and cost-effectiveness of incorporating energy storage systems into the electricity grid, and to adopt Energy Storage Procurement Targets (ESPT), as appropriate.

BACKGROUND:

The Board of Public Utilities and City Council on September 5, 2014 and September 23, 2014, respectively, adopted the first ESPT of zero megawatts due to lack of available cost-effective storage technology at the time. Since the adoption of the first ESPT, staff continued to analyze energy storage options that would best fit Riverside Public Utilities' operational needs while being cost-effective. In 2015, the Board of Public Utilities and the City Council approved a Goods and Services Contract with Ice Energy, Inc. (Ice Energy) to establish a five-megawatt (5 MW) Peak-Load Reduction Pilot Program (Program) using thermal energy storage. The Program was recommended with the following objectives: 1) to better understand the thermal energy storage technology, 2) to assess the operational values and the associated costs of thermal energy storage technology, and 3) to demonstrate the City's proactive support of the State's energy storage goals. With the Program in place, the Board of Public Utilities and City Council adopted a second ESPT of six-megawatts (6 MW) on September 11, 2017, and September 26, 2017, respectively.

Technology and Program Status

An Ice Bear unit turns a standard air conditioning unit into a hybrid air conditioner with an ice battery. The Ice Bear unit is scheduled to charge by freezing ice in an insulated tank at night. When dispatched, the Ice Bear turns off the compressor automatically and provides ice cold refrigerant to the air conditioning unit. It offers flexible energy storage capacity that can be scheduled to meet the customer's most pressing cooling needs, typically during the peak electricity consumption period.

During the term of the Pilot Program contract, Ice Energy successfully installed 111 Ice Bears at 46 customer locations throughout the City and commissioned a total of 3.12 MW in Peak-Load Reduction. Towards the end of the contract term in 2019, Ice Energy abruptly declared bankruptcy and was not able to achieve the 5 MW capacity target. Despite the bankruptcy, there was no immediate impact to any of the Ice Bear units already installed at customer locations.

Program Values

During the summer months of June through October each year, the installed Ice Bear fleet under the Program provides an estimated benefit of \$182,000 to RPU, deriving primarily from its capacity value and secondarily from load shifting to off-peak hours.

In addition, the Ice Bear Program provided direct onsite benefits to those customers who participated in the program, including reduced energy consumption and demand during peak hours, as well as improved energy efficiency with new heating, ventilation, and air conditioning (HVAC) replacements. Other ancillary benefits to those customers with an Ice Bear unit onsite include a desire to implement other energy efficiency measures such as lighting or behavioral changes to thermostat settings. One participant in particular, Malcolm Smith MotorSports, described interactions with their customers who noticed the many energy efficiency measures they have implemented: "After the installation of the Ice Bear, we often shared with our customers

that the reason it's so comfortable in our showroom is because our air conditioner is using ice!"
Alexander Smith – General Manager.

The Ice Bear Program has successfully provided benefits to RPU's ratepayers by alleviating stress on certain circuits through shifting air conditioning load to off-peak times. In addition to grid reliability benefits, the Ice Bear Program has been discussed at the Customer Engagement-hosted Key Accounts Breakfast where the largest managed electric accounts meet to discuss best practices and new programs to improve energy efficiency. By demonstrating the forward thinking of the Program, RPU is leading by example as it further supports the sustainability efforts of the City as a whole.

City's Obligation to Maintain its Assets

The City owns all the commissioned Ice Bear units under the Program installed on the customers' properties. Periodic maintenance is required at least once a year to ensure efficient and proper functioning of the equipment. Ice Energy is no longer able to provide such service under the original contract due to its bankruptcy. To preserve the value of the City's investment and to continue offering benefits to participating customers, a new long-term maintenance service is needed. The City has a contractual obligation to uphold the maintenance of the Ice Bear units. In accordance with customers' License Agreements under the Program, maintenance of the Ice Bear Equipment shall be performed by the City or its contractor, and to the extent the City fails to keep the Ice Bear Equipment in good condition, the City would be responsible for any resulting damage and injury to any person or property.

DISCUSSION:

Thule Energy Storage (Thule) acquired all of Ice Energy's assets and intellectual property through Ice Energy's bankruptcy proceeding. The company approached Riverside Public Utilities (RPU) staff in April 2020 and offered to provide maintenance service for the Ice Bear units installed in the city. Thule is the only contractor able to provide such services to Ice Bears due to its acquisition of the patented technology. Thule currently provides Operation and Maintenance (O&M) services for several utilities in California, including City of Azusa, City of Colton, City of Glendale, City of Moreno Valley, and Southern California Edison, with a combined portfolio of over 550 Ice Bear units. Under Thule's maintenance program, the City's Ice Bear fleet is expected to maintain an operational availability of 95% and above.

After a series of meetings and negotiations, staff and Thule were able to come to an agreement on the terms and conditions of a five-year Services Agreement. The Agreement has the following key terms:

Scope of Services: Thule shall provide the CoolData Platform and Preventative Maintenance Services for RPU's fleet of Ice Bear units. In addition, the City may request and authorize Thule to perform additional Break-Fix services.

- a) The CoolData platform is software specifically created to remotely monitor and troubleshoot the Ice Bears to maintain their proper performance. The CoolData platform will allow Thule and RPU staff to readily identify problems without dispatching on-site service and provide detailed remote diagnostic for the Ice Bears.
- b) Preventative Maintenance entails a tailored 14-step process designed specifically for the Ice Bears to maximize their operating lives. The maintenance services will be performed by licensed and certified technicians with extensive training on Ice Bears.

- c) Break-Fix covers any additional repair work that is not covered under the Preventative Maintenance services. Request for and authorization of any Break-Fix services will be at the sole discretion of the City.

Price: The CoolData and Preventative Maintenance service fee, labor rates for Break-Fix (repair) services, and costs to replace non-standard parts are all fixed over the term of the Agreement, which is an exceptionally favorable attribute given the current trend of inflation.

- a) The CoolData and Preventative Maintenance services are \$450 per Ice Bear per year or \$49,950 fixed annually for the 111 Ice Bears under the Program. Thule's price offer in comparison to the original Ice Energy Goods and Services contract for like-kind services (e.g., Basic Maintenance) reflects an approximately 10% cost saving over a five-year term.

Table 1: Maintenance Cost Comparison Between Ice Energy and Thule Energy

Service Packages	First Year Cost	Total Cost 5-year term
Ice Energy Remote Monitoring and Basic Maintenance Service*	\$52,016	\$276,161
Thule Energy CoolData and Preventative Maintenance Service	\$49,950	\$249,750
Savings	\$2,066	\$26,411

*Note: The Ice Energy Basic Maintenance service package includes an annual 3% escalation.

- b) Break-Fix services labor rates are fixed at \$270 for the first visit to each site for up to two hours of service or \$135 per hour. Any additional service for each Ice Bear will be charged at \$180 per hour per technician. Any standard parts (e.g., those that can be purchased at a hardware store) will be provided at Cost. Any non-standard part replacement, including labor, will be charged as detailed in Exhibit "B" of the Agreement.
- c) The pricing in this Agreement is approximately 30% below Thule's standard pricing and substantially lower than that of other municipal utilities who have retained Thule for similar services.

Table 2: Fiscal Breakdown

	First Year Cost	Total Cost 5-year term
CoolData and Preventative Maintenance Expense	\$49,950	\$249,750
Break-Fix Services Budget*	\$87,000	\$455,853
Total	\$136,950	\$705,603

*Note: The amounts shown are available budget for Break-Fix Services, not actual expenditures. Authorization of any Break-Fix Services will be at the sole discretion of the City.

Preventative Maintenance Report: Upon completion of preventative maintenance services for each Ice Bear, Thule will provide proof of completion of services by submitting a Preventative Maintenance Report to the City showing completion of the 14-step process before any payment is made by the City to Thule.

Termination: The City will have the right to terminate any or all of Thule's services and work covered by this Agreement at any time upon thirty (30) calendar days of written notice.

The Purchasing Manager concurs that the recommended actions are in compliance with

Purchasing Resolution No. 23812, Section 702(c) which states that: “Competitive procurement through the Informal Procurement or Formal Procurement process shall not be required in any of the following circumstances: ...(c) “When the Procurement can only be obtained from a sole source and the Manager is satisfied that the best price, terms, and conditions for the Procurement thereof have been negotiated.”

STRATEGIC PLAN ALIGNMENT:

This item aligns with **Strategic Priority No. 2 - Community Well-Being**, and **Goal 2.6 - Strengthen community preparedness for emergencies and disruptive events to ensure effective response and recovery.**

This item aligns with each of the five Cross-Cutting Threads as follows:

1. **Community Trust** – Properly maintaining the City-owned Ice Bear units will allow participating RPU customers to fully reap the benefits of these units for an extended period of time which will result in greater community trust.
2. **Equity** – A fleet of well-maintained Ice Bear units will equitably provide utility-wide benefits to all customers by shaving demand during peak hours.
3. **Fiscal Responsibility** – Performing regular maintenance on the Ice Bear units through this Agreement will prevent much more costly repairs to the equipment should they fail abruptly. The pricing in this Agreement represents a 30% discount from Thule’s standard rate.
4. **Innovation** – Thermal energy storage through Ice Bear units is a creative way to reduce peak load and at the same time offering savings on customers’ electricity bills.
5. **Sustainability & Resiliency** – Providing preventative maintenance annually on the Ice Bear fleet will ensure the longevity of the Ice Bear units and provide relief to RPU’s distribution peak system loading.

FISCAL IMPACT:

The total fiscal impact of this action is \$705,603. The fiscal impact is fixed for the CoolData Platform and Preventative Maintenance Services at \$49,950 per year over the term of the Agreement, plus an additional \$87,000 for the first year of Break-Fix Services. Sufficient funds are budgeted and available in the Electric Fund, Electric Power & Energy Purchasing expenditure account number 6120100-422928. Appropriations for future fiscal years will be included in the Department’s Budget submissions for those fiscal years to be presented to the City Council for approval.

Prepared by: Todd M. Corbin, Utilities General Manager
Certified as to
availability of funds: Edward Enriquez, Chief Financial Officer/City Treasurer
Approved by: Kris Martinez, Assistant City Manager
Approved as to form: Phaedra A. Norton, City Attorney

Attachments:

1. Agreement
2. Presentation