



Legislation Details (With Text)

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Date	Ver.	Action By	Action	Result
3/18/2024	1	City Council	Approved	Pass

Resolution Approve a Purchase Order to Sesame Solar, Inc. for the Purchase of a Mobile Nanogrid and 3 Years of Maintenance (\$333,000.00)

One of the core strategies from the City's A²ZERO Carbon Neutrality plan is resilience. Specifically, investing in our people and our place to ensure that we can all bounce forward, instead of backwards, during times of disruption.

Over the last several years, the City of Ann Arbor and our residents have experienced a notable increase in the number of extreme weather events and associated power outages and flooding events. In 2023 alone, the City experienced at least 3-multi-day power outages which caused significant impact to City infrastructure, service delivery, employee morale, and operational efficiencies.

To address some of these concerns, the City has been investing in onsite energy generation (usually solar) paired with energy storage systems (usually batteries) to ensure help that critical operations are able to function even during times of power disruption. We have also been working to expand access to resilience throughout the community, most notably via efforts to increase the number of brick and mortar resilience hubs in the community.

Given that community centers are existing, trusted community places, the City has been focusing on working directly with community-based organizations that either own or operate community centers to determine how best to support them in ensuring they are able to provide their critical services every day, even during times of disruption. To-date, the City has successfully supported Northside Community Center and the Bryant Community Center with transitioning to community resilience hubs. Plans are starting to unfold to assist Peace Neighborhood Center and Green Baxter Court with becoming the City's next two resilience hubs.

In addition to the above actions, the City has been investing in training A²ZERO Ambassadors,

supporting residents with developing emergency preparedness kits, focusing on natural systems adaptations, and finding more ways to embed climate change and future impacts into City planning process to help the city prepare and enhance resilience.

Through the course of this resilience work, the City was made aware of the Sesame Solar Nanogrid. Intrigued by the product, staff from the Office of Sustainability and Innovations and staff from Emergency Management had some preliminary calls with the Sesame Solar team. Understanding the value of a mobile nanogrid, City staff began researching what other products were on the market. The only viable solution found was the Sesame Solar mobile nanogrid.

Given this, staff from EM and OSI made a site visit to Jackson to see the unit in operation. This was followed by a site visit of the nanogrid to Ann Arbor so that more staff could view the resource and evaluate its efficacy.

Upon review of the unit, staff identified that the nanogrid could provide multiple levels of benefit and use for the City, including:

- Serving as a stationary source of back-up power for critical service operations during times of disruption. Specifically, the team identified that the unit could be dispatched to Fire Station 3 (Veterans Park), as needed, to help provide a resilient and reliable source of power. As a proof of concept and trial, this trailer will be evaluated on the functionality to support this building in-lieu of a natural gas generator.
- Providing a vehicle for community engagement and education around resilience. Specifically, staff identified how the mobile unit could be located at future Resilience Hub locations to help engage the public around what it means to foster resilience. The unit could also be used at neighborhood block parties, during OSI events, and at other community events as a means of engaging the community in deeper conversations around resilience, what the city is doing to enhance resilience, and how residents can be part of resilience-focused initiatives.
- Serving, as needed, as an on-demand resilience-back-up during times of disruption. In this case, the unit could be dispatched to areas throughout the City that need critical power and have the appropriate transfer switches to connect to the trailer. For example, if a critical facility on the east side of the city were to be without power, the Sesame Solar Nanogrid could be dispatched to that area to provide power and ancillary benefits to residents. One of the more likely use cases will be providing a location that impacted residents should charge electronic devices, potentially cool-off, and communicate with support services.
- A mobile tool for public safety or other critical City services to support an incident lasting multiple operational periods.

Given the above use cases, City staff requested that Sesame Solar design a unit for the City's consideration. This would be done through a best source contracting vehicle given that Sesame Solar was found to be the only viable purveyor of a mobile nanogrid. Included in that design (as noted in the design specifications accompanying this resolution) are: an 8kW solar array, 45 kWh of battery storage, a 15 kW inverter, a 4kW fuel cell (hydrogen powered), 2.4 kg of hydrogen storage, and a close dimension of 30 feet by 8.5 feet. Inside the unit, the City requested 4 foldable worktables and chairs, a tablet for device monitoring, fire extinguishers and gas sensor, HVAC unit, 1 high-top

worktable, an ADA adjusted ramp and access door, all LED lights, 4 quad power outlets with USB ports, a lockage storage unit, a 5G internet mesh hotspot, universal mounts for display screens, and 4 floating shelves. On the outside of the unit will be 2 weatherproof audio video systems, 2 quad power outlets with USB ports, weatherproofed LED lighting, and 2 foldable work benches, along with a charger for an electric vehicle.

This unit will be specially designed for the City and include an external wrap that hosts the City's A²ZERO and Ann Arbor Fire Department logos for easy recognition by community members.

Given the importance of community resilience, especially in the face of frequent and increasing power outages, staff are requesting Council authorization to purchase the Sesame Solar Nanogrid, model NT-H-45, from Sesame Solar along with 3 years of preventative maintenance. Sesame Solar has agreed to the City's standard purchase order conditions. Sesame Solar, Inc. is compliant with the City's non-discrimination, living wage, and conflict of interest policies.

Budget/Fiscal Impact: The Office of Sustainability and Innovations (OSI) has budgeted this work in the fiscal year 2024. As such, no additional funds are needed or requested.

Prepared by: Missy Stults, Sustainability and Innovations Director

Reviewed by: Kim Buselmeier, Financial Manager

Reviewed by: Mike Kennedy, Fire Chief

Approved by: Milton Dohoney Jr., City Administrator

Whereas, In June of 2020, Ann Arbor passed one of the nation's most aggressive climate and equity plans, A²ZERO;

Whereas, A²ZERO calls for achieving a just transition to community-wide carbon neutrality by the year 2030;

Whereas, Resilience is one of the seven core strategies identified in A²ZERO, and focuses on ensuring all systems and people within the City can bounce forward, regardless of what disruptions take place;

Whereas, Extreme weather events and an aging electrical grid mean that Ann Arbor is experiencing a growing number of power outages and operational and service disruptions;

Whereas, Staff in the Office of Sustainability and Innovations and staff in the Office of Emergency Management have been working together to undertake a series of actions that will increase the resilience of our community, our operations, and our natural systems;

Whereas, Staff became aware of Sesame Solar, Inc. and their nanogrid solution and, after reviewing the unit, talking with peer cities that have used the unit, and seeing the unit in action, have identified multiple co-benefits a unit such as this could have in terms of increase community resilience;

Whereas, The Sesame Solar Nanogrid is an award-winning and novel unit produced in Jackson, Michigan;

Whereas, Funding is available in the FY24 budget for the Office of Sustainability and Innovations to support resilience-enhancing activities, inclusive of purchasing equipment;

Whereas, Sesame Solar is compliant with the City's non-discrimination, living wage, and conflict of interest policies and has agreed to the City's standard purchase order terms and conditions;

RESOLVED, That Ann Arbor City Council approve a Purchase Order to Sesame Solar, Inc. for the purchase of a Nanogrid from Sesame Solar, Inc. and 3 years of maintenance in the amount of \$333,000.00;

RESOLVED, That a contract contingency of \$30,000.00 be established, and that the City Administrator be authorized to approve change orders to satisfactorily complete ensure the creation and delivery of the nanogrid;

RESOLVED, That all amounts approved and appropriated herein are without regard to fiscal year;

RESOLVED, That the Mayor and City Clerk be authorized and directed to execute any required purchasing documents, after review as to substance by the City Administrator and approval so to form by the City Attorney; and

RESOVLED, That the City Administrator be authorized to take the necessary administrative actions to implement this resolution.