



MEMORANDUM

Date: December 10, 2024
To: Michigan Strategic Fund Board
From: Steve Bakkal, Senior Strategy Advisor
Subject: University of Michigan – Strategic Site Readiness Program Grant

REQUEST

The University of Michigan (the “University”) is requesting \$100,000,000 from the Strategic Site Readiness Program (“SSRP”) related to site development, construction and other related Eligible Activities under the SSRP necessary to construct a new advanced computing facility in Ypsilanti, Michigan (the “Project”). The Project will provide a location for at least two state-of-the-art advanced computing facilities. One of the facilities will be utilized primarily by the University and the other is intended to be used by Los Alamos National Laboratory (“LANL”) for advanced research (the “National Lab Building”). The SSRP grant funds will be used for design and site development costs for the Project and construction costs for the National Lab Building.

The total cost of the Project is expected to exceed \$1.2B and the Project is expected to become fully operational by 2030. Proposed sources and uses are outlined below:

Proposed/Potential Sources:

State Support - SSRP	\$100,000,000
University and SPV Debt Financing	\$850,000,000
LANL Funding	\$300,000,000
	<u>\$1,250,000,000</u>

Proposed Uses

Land Costs	\$3,000,000
LANL 100MW New Construction Facility	\$685,000,000
University 10MW New Construction Facility	\$100,000,000
Network Line	\$15,000,000
Substation Capital Contribution	\$30,000,000
Computers Purchased	\$417,000,000
	<u>\$1,250,000,000</u>

(Collectively, the “Request”)

BACKGROUND

After conducting a competitive search by LANL, the University and LANL have entered a collaborative alliance focused on addressing key national priorities. This joint endeavor aims to empower the University and LANL in attracting and retaining top-tier scientists and engineers by facilitating collaborative solutions to current critical challenges for the Department of Energy (the “DOE”).

As part of fortifying this partnership, the University and LANL propose the establishment of a cutting-edge High-Performance Computing (“HPC”) innovation center. The HPC will encompass a groundbreaking 100-megawatt (MW) capacity for LANL and a dedicated 10MW academic computing center for the University's non-classified open research initiatives. Discussions are ongoing with the University to allocate a portion of the non-classified center to other educational entities within the State of Michigan (the “State”) as well as providing access to industry.

The facility will be located on a 20-acre property in Ypsilanti Township. The Ypsilanti Community Utility Authority has confirmed the proposed location already has water and wastewater service capacity to immediately support the proposed initial demand. Meanwhile, DTE anticipates constructing a new electrical substation near the site, also in Ypsilanti Township, with two-thirds of the substation’s capacity supporting the Project and the remaining one-third capacity for community benefit. The cost for constructing this electrical infrastructure is included in the total cost of the Project.

Even given the electricity and water usage, the Project remains focused on minimizing environmental impact and reducing greenhouse gas emissions however possible. The water-cooling technology being considered, for instance, could redistribute water throughout the facility for cooling. Other concepts under consideration include obtaining non-potable or reclaimed water, opportunities for heat re-use, and implementing clean energy solutions such as solar power, geothermal, or other renewable energy options.

The development of the Project is expected to create highly skilled federal research lab positions and provide a significant attraction opportunity for out-of-state companies that are interested in partnering with LANL or the University. Beyond the initial construction jobs and the significant purchasing of materials during the construction phase, a minimum of 200 direct permanent jobs are expected to be created over 10 years, with an average salary of approximately \$200,000.

LANL identified the University due a variety of factors including, but not limited to: (1) the caliber of research being done at the University and potential for synergies in that research between the two organizations; (2) an indicative commitment by the State of \$100 million in support of construction of the HPC; and (3) unique qualities offered by the State’s geography, including an expectation of long-term climate resilience.

ADDITIONAL BENEFITS TO MICHIGAN

This Project supports the State’s growing AI ecosystem, focused on developing the computing infrastructure, research and innovation, and talent, to capture the economic development benefits of AI. Many of the areas of research that LANL and the University will be focused on include national security, climate change, and artificial intelligence, which are key priority areas for the State.

This investment positions Michigan for additional anticipated federal investments to support AI research hubs across the country. Dedicating a portion of the HPC for shared computing capacity can also develop the security clearance ecosystem, creating additional opportunities for businesses to secure Department of Defense grants. Also, the non-classified portion of the facility can be utilized by the private sector, in partnership with the University or other educational entities in the State, to solve industry challenges.

In addition to attracting researchers and their families to the State, this facility will also attract students nationally and globally to Michigan to utilize the research assets and work in the national lab system. It’s also anticipated that LANL and the DOE will upgrade the supercomputing assets every 3-5 years (over \$250,000,000) to maintain global leadership in having the world’s most powerful computational infrastructure. These assets can then be utilized by the non-classified portion of the facility for University and private sector access. Having these facilities here will be a significant addition to the innovation infrastructure in the State.

ELIGIBILITY

The University is a political subdivision of the State and is therefore an eligible applicant for SSRP funds. The scope of the Project consists of professional fees and construction of buildings on the Project site which are all eligible activities for SSRP funds.

The application for this grant was reviewed using the criteria outlined in Act 270 of 1984 125.2088t (3), (4), and (7).

The site is currently within an area designated as an Innovation and Employment District. From Ypsilanti Township's Future Land Use Plan:

“The Innovation and Employment District is intended to be the major employment area of the township. The area is targeted for companies at the cutting edge of innovation with a combination of technology, office, craft manufacturing or light industrial uses.”

Appendix A addresses the SSRP statutory and programmatic considerations.

RECOMMENDATION

Staff recommends approval of the Request.

Key Statutory Criteria

Per section 88t of the MSF Act, to the extent reasonably applicable as reasonably determined by the MSF board to the type of project proposed, the MSF shall consider and document at least all of the following criteria for all SSRP awards before entering into a written agreement:

- **Explain the importance of the project in the community it is located and the extent to which it will be a catalyst for additional revitalization of the community.** By establishing a state-of-the-art innovation center, the region can attract additional investments in research and development. The proposed facilities will create job opportunities, support local businesses, and improve the quality of life by providing educational and collaborative research opportunities. As the University trains students, we will be in a position to retain top talent in Michigan through research positions while meeting the needs and goals of LANL.

Explain the degree to which the project is a priority for the local government or economic development organization (EDO). Ann Arbor SPARK has expressed their support for this project.

The project includes plans to accommodate up to 200 National Lab employees, which can stimulate local employment and economic activity.

Significant investment in large infrastructure projects like a 100MW facility and a 10MW facility can lead to additional job opportunities in construction, maintenance, and operations.

This Project could further enhance Southeast Michigan as a hub for high-tech industries and innovation, attracting other start-ups or high-tech businesses who may be a potential tenant or collaborator. This project also promises enhanced educational opportunities, joint workforce development programs, and research initiatives, which can improve local academic environments and skill levels. This project maintains an emphasis on grid reliability, water security, and a mild climate suitable for cooling the computing equipment in the facility underlines the project's aim to create sustainable and resilient infrastructure to serve national interests. By leveraging Southeast Michigan's affordability and quality of life, the project aims to create a highly attractive locale for prospective employees and their families, enhancing the region's overall standard of living.

- **Is the site supported by a strategic or other plan addressing business attraction and investment in the region?** The site aligns with strategic plans designed to attract business and investment in the region. The University has coordinated efforts with DTE Energy to confirm existing and scalable infrastructure capacity, underscoring a proactive approach to support the project. This includes securing necessary utilities and ensuring that the location is favorable regarding schedule and construction costs, which are critical considerations for attracting high-value research and business activities to the area. It aligns with the University's strategic plan for Vision 2030 and the creation of an innovation center.
- **Explain the extent to which there is regional and local support for the project, including the strategic importance of the project to the community.** The project has significant regional and local support as evidenced by the preferred site being in Ypsilanti Township, MI. The selection of this site involves coordination with DTE Energy, ensuring the availability of critical infrastructure such as electrical and water services. The partnership between the University and LANL underscores the strategic importance; it will not only house advanced HPC capabilities but will also foster collaborative research and workforce development, thus benefiting the local community by enhancing educational opportunities and positioning the area as a leader in high-performance computing.
- **What is the projected level of creation or retention of qualified jobs as a result of a technological shift in product or production at the project location and within the state?**

LANL estimates the creation of up to 200 jobs in Michigan over the next 10 years, with the largest components of that creation coming when the facility is placed in service.

- **Will the projected wages equal or exceeded the average wage for the county in which the project is located?** With total average annual compensation estimated at \$300,000 and average base compensation at \$200,000, the new jobs created are expected to significantly exceed the average annual wage for Washtenaw County of \$69,056.
- **Have you secured other economic assistance or is there support from the federal government for the project? If so, what is the amount?** LANL has informally committed to \$285,000,000 in net construction costs. Ongoing operating costs (not including construction net debt service) are estimated at \$78,000,000 annually, with such costs consisting of electricity, water, building maintenance, operating costs, etc.
- **What is the level of end user's commitment to the project?** LANL will pay net construction costs of \$285,000,000 plus ongoing operational costs indefinitely, which are estimated at \$78,000,000 (not including construction debt service). In addition, it is anticipated that LANL and the University will sign a memorandum of understanding for the initial project phases and expect to execute long-term lease and/or use agreements for LANL's use of the facility.
- **Upon completion of the grant, if awarded, will the site demonstrate a high level of competitiveness for business attraction (status of assemblage, site control, and status of site readiness)?** Yes. A tenant has already been identified. Aside from the tenant the Project will attract, additional businesses dealing with classified matters are expected to gravitate toward the area as well as significant numbers of researchers which will be, in part, supported by the facility.
- **Do you have a detailed plan for how the requested funds will be used to advance a site(s) to an investment ready status?** Yes
- **Have you pursued cost containment measures?** The Project has prepared preliminary cost estimates and will update them at the completion of each design phase to assess budget conformance. At the end of each design phase, the design team will also complete a value engineering exercise to identify savings opportunities.
- **Is the project competing with other states and is the SSRP part of the incentive package?** Yes, LANL considered multiple sites for the partnership. The support of the State of Michigan through the SSRP grant was a critical component in securing the Project in Michigan.
- **Explain how the project promotes sustainable development.** The Project has a minimum LEED certification goal of LEED Silver with a stretch goal of LEED Gold under LEED v4 for New Construction. The Project will employ integrated design principles to ensure energy efficiency, water conservation, occupant comfort, and minimal environmental impact to the project site. In keeping with the University's carbon neutrality goals, the project will be all-electric. The building's design and systems include several energy-efficient features to achieve better than 20% energy savings compared with an energy-code-compliant building as defined by ASHRAE 90.1-2013. Low-flow plumbing fixtures will reduce water consumption by 20% beyond the Michigan Plumbing Code requirements. The project will purchase ENERGY STAR equipment and construction waste will be diverted from landfills whenever possible.
- **Will the proposed investment result in the elimination of blight and the redevelopment of blighted properties?** No. This Project involves construction of new facilities.
- **Will the proposed investment result in the remediation of environmental contamination?** A Phase I Environmental Site Assessment was conducted that identified recognized environmental conditions. Therefore, a Phase II assessment is planned. If non-hazardous, contaminated soils and/or groundwater are identified above Part 201 criteria then the management of contaminated materials and the site development will be in accordance with Part 201 due care requirements.

- **Will the reuse of vacant buildings, public or private, or the conversion of any abandoned public buildings to private use be included in the project? No**
- **Does the project involve the rehabilitation of a historical use? No**
- **Will the funds, if awarded, address the necessary site improvements specifically pertaining to environmental and topographical conditions? Yes**