



MICHIGAN STATE UNIVERSITY
BOARD OF TRUSTEES
Executive Action Summary

Committee Name Budget and Finance

Date April 12, 2024

Agenda Item: Authorization to Plan - FRIB – Chip Testing Facility

Information

Review

Action

Resolution:

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project entitled “FRIB – Chip Testing Facility.”

Recommendation:

The Trustee Committee on Budget and Finance recommends that the Board of Trustees authorize the Administration to plan for an addition to the Facility for Rare Isotope Beams to accommodate the Chip Testing Facility.

Prior Action by BOT: Not applicable.

Responsible Officers: Thomas Glasmacher, Director of the Facility for Rare Isotope Beams and Interim Executive Vice President for Administration

Barbara J. Kranz, Assistant Provost, Institutional Space Planning and Management

Summary: The building addition of approximately 5,500 sq. ft. is planned for west of the current highbay housing the K500 and K1200 cyclotrons. The addition will triple the current capacity of the facility by providing two additional user vaults for the K500 Chip Testing Facility.

Background Information:

The National Academies issued a report that the nation urgently needs additional chip testing facilities based on heavy-ion accelerators. All integrated circuits in flying and self-driving vehicles need to be tested against damage from cosmic rays. FRIB is one of three chip testing facilities in the nation and the current facility is fully booked by user teams. The federal government has granted \$14 million to MSU to

establish the K500 Chip Testing Facility with one testing endstation, which allows MSU to charge fees for facility use time to recover future costs. The proposed addition adds two more testing endstations and the additional capacity provided by the building expansion addresses this national need by allowing user teams to test 24/7, eliminating current gaps in testing time needed for user team set-up and take-down. The operational model has one team test, one team set up, and one team take down their setups. Additionally, the building addition will provide student opportunities through SPARTE, the Space Electronic Center started by FRIB and the College of Engineering, to educate students in chip design and testing. SPARTE and the K500 Chip Testing Facility will position Michigan State University as national leaders in chip design and testing.

Source of Funds:

Planning for this project will incur costs for consultants, designers and cost estimating. Planning costs are estimated at \$1.0 million. Planning costs are estimated at 6% of the pre-planning budget estimate, which covers costs through bid documents necessary to submit prior to authorization to proceed. This is consistent with other non-complex high-bay additions at FRIB.

The administration will bring forward a funding plan for full project costs when seeking authorization to proceed. It is anticipated that funding for the full project will include debt financing with repayment from Chip Testing Facility user fees. Costs for equipment and instruments will be paid by the federal government.

Resource Impact:

Operational costs of the facility will be funded by the K500 Chip Testing Facility user fees.

AUTHORIZATION TO PLAN

FRIB - Chip Test Facility

