

**ITEM 149-2002-R1110**

**Authorization to Negotiate Proposal to Construct and Lease Building for National Solar Observatory Offices and Laboratories at Montana State University**

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**THAT**

In accordance with provisions of MCA 18-2-102(c), the Board of Regents of Higher Education authorizes MSU to enter into negotiations through a competitive proposal to construct and lease a new building to house the National Solar Observatory offices and labs on the Bozeman campus, through a sale of bonds, for up to \$15,000,000.

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**EXPLANATION**

1. The National Solar Observatory (NSO), in affiliation with the Association of Universities for Research in Astronomy (AURA), is seeking to partner with a host university to consolidate its directorate operations currently located in New Mexico and Arizona into a single facility. MSU will submit a competitive proposal demonstrating MSU's ability to support both the NSO research operations and to continue to foster student and faculty recruitment and advance its solar research and education at MSU.
2. NSO seeks to partner with a university campus in order to strengthen its role in higher education. A primary strength of MSU's proposal will call for the NSO to become an integral component of the Physics Department, enabling and encouraging the NSO staff to serve MSU in its teaching, research and service missions.
3. Final proposals are due in December 2010, selection will be made in 2011 and the facility must be ready to occupy by 2016.
4. The facility is expected to be approximately 34,000 SF and will house administrative and research personnel offices, several research/instrumentation labs, optics labs, conference/meeting space, a data center and other spaces in support of the NSO operations. In addition to the NSO staff, the proposed building will house the primary offices of five tenure-track Physics faculty and numerous research faculty from the MSU Physics Department. This co-location will create a nexus for Solar Physics research, enhancing productivity and expanding the utilization of the NSO's worldwide facilities.
5. The NSO facility will also include offices for roughly 25 Physics doctoral students doing research with tenure-track faculty, research faculty and NSO research staff. Graduate students are the life-blood of research-active departments such as Physics. In addition to performing research, they attend classes, give research seminars, grade homework, teach undergraduate laboratory sections and occasionally teach classes. Their home in the NSO facility will make it an important part of the MSU Physics Department.
6. The NSO facility will also include a classroom to accommodate graduate and upper-division undergraduate courses in Astronomy, which includes many students that are not otherwise directly engaged in Solar Physics Research; a machine shop to support Physics equipment; and a conference/seminar room.

7. This project will be financed with the proceeds from a sale of new bonds, and the resulting debt service will be funded by revenues from a 5-year renewable lease with the NSO, with the debt being retired in 20 years.
    - a. This Proposal will not require any MSU General Operations funding for the NSO nor the MSU portions of the facility. MSU intends to structure the lease agreement so that all debt service and O&M costs for the entire facility will be covered by the lease payments.
    - b. If for any reason NSO funding (which has a demonstrated 50+ year history of continuous funding at its present locations) is discontinued, MSU will consolidate other existing research operations from private leased locations (paid with research funds) into the NSO facility and the remaining debt service would be pledged from research Facilities & Administration (IDC) overheard funds from Federal and other grants & contracts.
  8. This Item provides MSU the authorization to enter into negotiations through a competitive proposal to construct and lease a new building to house the National Solar Observatory offices and labs on the Bozeman campus. If MSU succeeds in negotiating a favorable proposal MSU will then request Regent authority to proceed with the building project.
  9. This Item does not authorize any construction or financing. Construction will not proceed until MSU requests and receives authority from the Board of Regents for the construction project and the required financing. In addition, this construction project would require the consent of the Governor.
  10. This Authorization does not include any request for, or implication of, the addition of a new academic program, or the expansion of an existing academic program.
  11. The competitive proposal for the future National Solar Observatory (NSO) facility will identify a site located within the MSU Research Court Area (formally known as Faculty Court). The MSU Research Court is located at the south east end of campus, east of 7<sup>th</sup> street and between Kagy blvd and the MSU Facilities area. If constructed, the 34,000 sq ft. facility will be the anchor building for future development of the Research Court area in accordance with the University Long Range Campus Development Plan (LRCDP). With support from the VP of Research, Provost, VP of Administration and Finance, and the Dean of Letters and Science, the University Facilities Planning Board (UFPB) made a formal recommendation to MSU President Cruzado to approve locating the facility within the Research Court area so that it may be close to the academic core of campus and the Physics Department's Solar group operations located in EPS in order to facilitate a strong academic partnership between University and NSO operations as well as facilitate development of the Research Court area. The President approved this recommendation on September 16, 2010.
  12. It is possible that an Alternative Site will also be proposed by MSU, which would be located in, and developed by, the Advanced Tech Park in Bozeman.
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## **ATTACHMENTS**

Physical Plant Information Sheet  
National Solar Observatory Overview  
Preliminary Building Program

**ITEM 149-2002-R1110 (continued)**

**Board of Regents Policy: Physical Plant B Section 1003.7**

This request is for an amount greater than \$150,000, which requires the following additional information:

**(a) Project Description:**

This project would bring the National Solar Observatory (NSO) to a new directorate site located on the Bozeman campus of Montana State University. A staff of 60, including 25-30 research astronomers, would be housed in a ~34,000SF building, leased by the managing organization (AURA) under contract from the National Science Foundation. The building would also include offices for MSU faculty, research staff and graduate students (mostly from the Physics Department) whose research complements that of the NSO.

**(b) Cost Estimate and Funding Sources:**

Estimated Cost: the total project budget is expected to be 15,000,000.

Construction .....	\$11,650,000
Consultant Fees .....	\$1,600,000
Owner's Expenses.....	\$250,000
Contingency.....	\$1,500,000

Funding Source: This project will be financed with the sale of new bonds.

**(c) Program Served, Enrollment Data, Projected Enrollment:**

An increased focus on astronomy is expected to increase undergraduate enrollment in the Physics Department from its current (2010) level of 100 majors to as many as 135 majors. The new facility will include offices of MSU faculty involved in teaching physics and astronomy courses (undergraduate and graduate level) as well as researchers supervising as many as 25 MSU doctoral students. The facility will include offices for all of these graduate research and teaching assistants.

Research is an essential component of MSU's educational mission and all Physics majors are currently required to participate in undergraduate research. The researchers in the new facility will help Physics majors conduct research with the world's best Solar Telescope, the 4-meter Advanced Technology Solar Telescope currently under construction in Hawaii.

**(d) Space Utilization Data:**

(See attached building space program)

**(e) Projected Use for Available Residual Space**

(Not applicable to this project)

**(f) Projected O&M Costs and Proposed Funding Sources:**

O&M costs are estimated to be approx \$500,000/year, depending upon final building configuration, utility consumption, major maintenance reserve, systems complexity and hours of use.

No state funds will be used for O&M of this facility. MSU will fund the O&M responsibility by including the O&M costs in the lease payment calculation.

Given that the NSO is expected to become an integral component of the Physics Department, with substantial connections to MSU's teaching, research and service missions, MSU may eventually seek legislative support for all or part of the O&M costs when the initial debt has been retired.