

South Dakota Science and Technology Authority Board of Directors
Meeting Minutes
Thursday, September 17, 2015
Lead, South Dakota

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 9:05 AM Mountain Time (MT) on Thursday, September 17, 2015 in the 2nd Floor Vault Conference Room at the South Dakota Science and Technology Authority, 630 East Summit Street, Lead, South Dakota.

MEMBERS OF THE BOARD IN ATTENDANCE

Mr. Paul Christen
Secretary/Treasurer Patricia Lebrun
Chairperson Casey Peterson
Vice Chairperson Ron Wheeler
Dr. Robert Wilson
Dr. Heather Wilson

MEMBERS OF THE BOARD NOT IN ATTENDANCE

Dr. Ani Aprahamian
Vice Chairperson Dana Dykhouse

SDSTA STAFF

Ms. Billi Bierle, Sanford Lab Homestake Visitor Center Director
Mr. Tim Engel, Legal Counsel
Ms. Nancy Geary, Chief Financial Officer
Mr. Mike Headley, Executive Director
Dr. Jaret Heise, Science Liaison Director
Ms. Sharon Hemmingson, Business Services & Contracts Manager
Mr. Matt Kapust, Multi-Media Specialist
Ms. Mandy Knight, Administrative Services Manager
Ms. Leatta Mathis, Contracts Specialist
Mr. KC Russell, Cultural Diversity Coordinator
Mr. John Scheetz, Environmental Manager
Mr. Noel Schroeder, Environment, Health and Safety (EHS) Director
Ms. Constance Walter, Communications Director

ALSO PRESENT DURING ALL OR PART OF THE MEETING

Dr. June Apaza, Education and Outreach Director (BHSU)
Mr. Jim Hart, Chairperson, South Dakota Community Foundation (SDCF) Board of Directors
Mr. Charles Hart, SDCF Board of Directors
Ms. Stephanie Judson, SDCF President
Ms. Beth Massa, SDCF West River Development & Program Officer
Dr. Peggy Norris, Education and Outreach Deputy Director (BHSU)
Dr. Ben Sayler, Co-Director, Sanford Science Education Center (BHSU)
Mr. David Pease, Traylor Brothers
Mr. John Heidbreder, McCarthy Building Company
Mr. Thomas Kidd, KNBN-TV
Ms. Monica Davis, KNBN-TV
Ms. McKencie Nelson, KEVN-TV
Mr. Adam Hurlburt, Black Hills Pioneer

ITEM 1. – CALL TO ORDER

Chairperson Peterson called the meeting to order at 9:05 AM (MT). Roll call was held. All members were present except Dr. Aprahamian and Vice Chairperson Dykhouse.

Chairperson Peterson thanked Dr. Robert Wilson for accepting the Governor's appointment and welcomed him to the board. Audience members were asked to introduce themselves.

ITEM 2. – APPROVE AGENDA

Vice Chairperson Ron Wheeler requested that a 15-minute break be added between agenda Item 4 and Item 5. Chairperson Peterson asked for a motion to approve the agenda as amended.

Motion by Mr. Wheeler and second by Mr. Christen to approve the agenda as amended. Motion passed unanimously.

ITEM 3. – APPROVE MINUTES

Chairperson Peterson asked for comments, changes or corrections to the Minutes of the June 30, 2015 meeting. Hearing none, a motion to approve was requested.

Motion by Mr. Christen and second by Mr. Wheeler to approve the Minutes of the June 30, 2015 meeting as presented. Motion passed unanimously.

ITEM 4. – SOUTH DAKOTA COMMUNITY FOUNDATION

Mr. Wheeler recognized the importance of the LUX-ZEPLIN (LZ) experiment to the future of the Sanford Lab, and noted the South Dakota Science and Technology Authority (SDSTA) board committed years ago to help fund xenon procurement for the project. The Governor committed \$6 million in Future Funds over a three-year period, with \$2 million slated for the purchase of xenon and another \$2 million authorized for use as an incentive for South Dakota non-profit investors to make loans or investments for xenon purchases. The board's first proposal requesting funding assistance went to the South Dakota Community Foundation (SDCF). Mr. Wheeler announced that, after several meetings with that group, documents are being drawn up for a loan from SDCF in the amount of \$2,000,000.00. He introduced Mr. James Hart, Chairperson of the SDCF Board of Directors, and Ms. Stephanie Judson, President of SDCF.

Ms. Judson expressed her appreciation for the opportunity to address the board and gave some background about the SDCF. Ms. Judson stated her board felt the Sanford Lab's proposal fit keenly with its mission of continuing to provide resources to support economic development in South Dakota and formally reiterated the SDCF's decision to make a \$2 million program-related investment loan to sustain and expand the work being done at the Sanford Lab. She explained this investment differs from the SDCF's grant making mission not only because of its size and structure, but because the dollars invested today will actually be repaid.

Chairperson Peterson expressed appreciation and noted securing the loan was a huge milestone toward funding experiments independent of state or federal funding.

Dr. Bob Wilson reiterated this type of partnership builds confidence within the international science community as well as in the United States.

SDSTA Executive Director Mike Headley stated both the LZ collaboration and the Department of Energy (DOE) have been incredibly impressed with the SDCF's investment and with the State's commitment. He noted sharing this news has helped the project's credibility with the agencies and thanked Ms. Judson and the SDCF board for their assistance.

Motion by Mr. Wheeler and second by Ms. Lebrun to approve the \$2 million South Dakota Community Foundation investment loan and authorize Chairperson Peterson to negotiate the final terms of the loan and sign the loan documents. Motion passed unanimously.

Chairperson Peterson called for a 15-minute break at 9:21 AM. The meeting reconvened at 9:38 AM.

ITEM 5. – AUDIT COMMITTEE REPORT

Chairperson introduced Audit Committee Chairperson Ms. Patricia Lebrun to discuss the Audit Committee Report.

Ms. Lebrun provided a synopsis of the September 15 Audit Committee conference call to request the FY2015 state audit. Audit Committee member Mr. Paul Christen, SDSTA Chief Financial Officer Ms. Nancy Geary, South Dakota Legislative Audit Auditor-in-Charge Mr. Al Schaefer, and Ms. Lebrun participated in the call. The audit will begin in October, and a preliminary report should be available to present at the December board meeting. She advised the cost for this year's audit will increase because two auditors will be involved.

Ms. Lebrun noted Mr. Schaefer asked if the Audit Committee knew of any issues the board would like to discuss; she and Mr. Christen had none. She conveyed Mr. Schaefer invited all board members to contact him by email should an area of concern involving the Sanford Lab's finances arise.

ITEM 6. – FINANCIAL REPORT

Ms. Geary reported that expenses were under budget for August on the DOE contract, as were the SDSTA's expenses for the month. She noted two new items were added to the Other Assets portion of the Balance Sheet, being the Captive Indemnification relating to the transfer of the \$2.5 million to the Captive Insurance fund and the Pension Deferred Outflows necessitated by the Governmental Accounting Standards Board announcement that detailing entities must report basic pension information on the face of their balance sheets. The South Dakota Retirement System (SDRS) provided information concerning SDSTA's comparative share and its actual deposits to that fund. Chairperson Peterson asked that Captive Indemnification be retitled Investment in Captive.

Mr. Headley announced that \$469,000.00 had been received from DOE, after deducting Lawrence Berkeley National Laboratory overhead, to help pay for rebuild of the Yates Shaft hoist motors. Four hoist drive motors will be rebuilt by the end of the month, ensuring their serviceability well into the future.

Ms. Geary announced \$350,000 interest was received on State-held funds, which was slightly higher than last year. She noted the Interest Letter in the board packet estimated interest at 0.9 percent for next year while this year's accrual was for 0.75 percent. Chairperson Peterson suggested that next year's accrual be maintained at the more conservative 0.75 percent.

Ms. Geary continued that the annual Fixed Asset Listing consists of depreciable assets, an inventory of supplies, and DOE Subcontractor Acquired Property reports. She indicated the inventory of supplies contains items donated by Homestake that may be useable, but are not being used at this point. These items, she noted, consume a great deal of storage space and may have to be scrapped to make storage space available for science. Vice Chairperson Wheeler agreed it is time to remove questionable items from inventory.

Motion by Mr. Wheeler and second by Dr. Wilson to accept the financial report and the Fixed Asset Listing. Motion passed unanimously.

SDSTA Legal Counsel Mr. Tim Engel reported the Captive Insurance Company has issued policies and is providing coverage effective September 1. The \$2.5 million was transferred from the Indemnification

Fund once the agreement with Homestake/Barrick was signed, and the few minor issues remaining are nearing completion.

Chairperson Peterson thanked Mr. Engel, Mr. Wheeler, and Mr. Headley for their efforts in putting this together. Mr. Headley noted that Craig Ambach and the Bureau of Administration team were instrumental in making this happen.

ITEM 7. – REPORT FROM THE EXECUTIVE DIRECTOR

Mr. Headley said the safety record continues to be very, very strong and noted the Sanford Lab is only two weeks away from achieving an entire year with no recordable injuries. This milestone achievement signifies the remarkable progress made since the September 2013 safety stand-down and confirms the work planning efforts to characterize the environment, identify and understand hazards, and put protections in place before starting the job have yielded immeasurable contributions toward ensuring the safety of our workers.

Mr. Headley noted the dedication of the Ray Davis Tribute featured presentations by Ray's son, Dr. John Davis, the MAJORANA DEMONSTRATOR (MJD) collaboration's principal investigator Dr. John Wilkerson, the University of Utah Dean Dr. David Kieda, and South Dakota Artist Laureate Dale Lamphere who designed and built the Tribute.

Mr. Headley advised the Ross Campus construction was completed and the Compact Accelerator System for Performing Astrophysical Research (CASPAR) researchers are moving in to the 4850L. The CASPAR collaboration includes the University of Notre Dame, Colorado School of Mines, and South Dakota School of Mines and Technology (SDSM&T), which will operate CASPAR. The Black Hills State University Underground Campus (BHUC) is composed of two sections, one for Class 1,000 and another for Class 10,000 clean rooms for low-background counting.

He continued that both MJD and the Large Underground Xenon (LUX) experiments are collecting production physics data.

Mr. Headley conveyed that LZ is advancing designs for the experiment and the facility. He reiterated that, between the portion of Future Fund grant approved by the Governor and the SD Community Foundation, SDSTA has \$4 million of the \$10 million needed to purchase xenon. He reported that a portion of those funds will be used in October to make the first xenon purchase, which will require a brief telephonic board meeting to approve the \$2 to \$3 million purchase. Mr. Headley noted xenon is currently at approximately one-third of its highest price, so accelerating purchase is very beneficial to the Sanford Lab and to LZ. Ms. Lebrun asked where the xenon would be held; Mr. Wheeler reported it would initially be shipped to the SLAC National Accelerator Laboratory, which will be involved in any purification that needs to be done and in handling it. Dr. Bob Wilson questioned whether the xenon was insured. Mr. Headley advised \$8 million in coverage had been purchased, with coverage both at SLAC and while in transit.

Mr. Headley reported the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE) is advancing to CD-3A Review, which would provide approval to start construction. He explained it is very unusual for DOE to authorize a CD-3 review based on 100% preliminary design rather than final design and noted this would be one of largest the DOE Office of Science has ever approved from a dollar perspective.

Mr. Headley announced Mr. Walter Weinig was selected as the new Laboratory Director and will be starting October 5. Mr. Weinig has worked with the Sanford Lab on past projects and is well respected by the staff.

Mr. Headley continued his report with slides of the 4850L Ross Campus, the CASPAR experiment, status of the BHUC, and the LBNF 4850L facilities and surface designs and construction schedule.

Mr. Headley noted that the Gilt Edge Mine Superfund site and the Open Cut in Lead are being considered as depositories for the rock. Mr. Headley said the potential for noise, dust, and road damage caused by trucking rock to Gilt Edge site were the main concerns raised by attendees at the last Environmental Assessment (EA) public meeting and stated accommodations are in place to mitigate these concerns.

Mr. Headley said the August 11-13 Logistics Workshop held at Sanford Lab went very well and that the report generated from the workshop will be very useful in identifying and mitigating effects to existing experiments. CD-3A approval is expected in 2016 and construction is anticipated to start in early 2017.

Mr. Headley reported the Ross Shaft refurbishment is on target and the Yates work continues to progress.

Motion by Mr. Wheeler and second by Mr. Christen to accept the Executive Director's report. Motion passed unanimously.

Mr. Headley reported that the Easement Agreement between Homestake and SDSTA to place excavated rock in the Open Cut is almost ready for signature. Mr. Engel explained the draft agreement would allow the SDSTA to place up to 5 million tons of rock in the Open Cut with the SDSTA undertaking all liability arising out of SDSTA's activities. He noted the technical exhibits for items such as road placement and conveyances are not yet completed and suggested the motion to approve the easement include authorizing the chairperson and executive director, in consultation with legal counsel, to finalize and agree to the terms of the exhibits.

Motion by Ms. Lebrun and second by Mr. Christen to approve the easement agreement between Homestake and SDSTA, and to authorize the chairperson and executive director, in consultation with legal counsel, to finalize and agree to the terms of the Exhibits thereto.

Prior to calling the vote, Mr. Wheeler interjected a substitute motion to also include formal approval to place excavated rock in the Open Cut should that be the disposal site selected by LBNF and DUNE. Ms. Lebrun and Mr. Christen indicated they had no objection to the substitute motion.

Accordingly, the motion before the Board was to approve the easement agreement between Homestake and SDSTA, and to authorize the chairperson and executive director, in consultation with legal counsel, to finalize and agree to the terms of the Exhibits thereto, and to approve placing excavated rock in the Open Cut should that site be selected by LBNF/DUNE. The amended motion passed unanimously.

Mr. Headley presented an update on the Strategic Plan Report, citing Sage Project Consultant's co-owner Sharon Chontos as being excellent to work with and doing a great job of positioning the Sanford Lab five to ten years into the future. He provided an overview of the strategic planning process, from preparation to analysis to the goals for Infrastructure, Science Support, EHS, Education and Outreach (E&O), Communications, Organizational Capacity, and business model needed to maintain forward momentum. Dr. Heather Wilson questioned why E&O goals were focused on K-12 and wondered how the tremendous value of this South Dakota facility in promoting research for undergraduates and graduate students to exceptional new world-class research would fit in. Mr. Headley and Mr. Wheeler noted the focus had been mostly on Science, Technology, Engineering, and Math (STEM) and science in the past, but should certainly be extended to higher education. Mr. Headley stated an action item to include undergraduate and graduate E&O activities would be incorporated into the Education & Outreach goals.

Dr. Bob Wilson asked whether the communication section included explicit goals like reaching out to other science labs or identifying a way to become formally coupled into Symmetry magazine so the Sanford Lab was on the masthead beside other labs. Mr. Headley advised an action to include proactively seeking name recognition would be added to the Communications goals.

In response to Dr. Bob Wilson's question on how the public version of the plan would be distributed, SDSTA Communications Director Constance Walter said distribution would be made mainly through the website where it could be downloaded. Hard copies would be provided to each board member, with a very limited number of hard copies available for other purposes. Ms. Lebrun asked if email copies would be sent to all legislators; Mr. Headley responded yes. Mr. Headley said an action to devise a distribution plan which includes identifying who will receive hard and email copies of the public strategic plan be added to the Communications goals.

Motion by Mr. Christen and second by Dr. Bob Wilson to approve the public strategic plan as presented with modifications a discussed. Motion passed unanimously.

Mr. Headley reported two items had recently been declared surplus property. The items are an ATV which would require repair exceeding its value, and two refuge chambers purchased in the early days of re-entry that are too expensive to refurbish for use underground.

Mr. Headley introduced Education and Outreach Director Dr. June Apaza, who reported on curriculum development.

Dr. Apaza said the K-12 educational opportunities have been broken into three main segments that include assembly presentations, curriculum units, and field trips and discussed each.

Mr. Wheeler complimented Dr. Apaza and the E&O staff on the quality of the material developed and noted teachers, especially those in smaller districts, are hungry for this type of help.

Mr. Headley introduced Director of the Sanford Lab Homestake Visitor Center Ms. Billi Bierle.

Ms. Bierle stated the objective of the Visitor Center is to encourage lifelong learning by educating the public on the happenings at the Sanford Underground Research Facility and science generally while telling the story and preserving the history of Homestake and the community of Lead.

Ms. Bierle explained presentations, partnerships, and flyers were the mainstay of advertising efforts at the present time due to budget constraints. She plans to attend the Governor's Tourism Conference and the American Busing Association (ABA) Conference in 2016.

Overall, she is pleased with the current picture of operations, and looks forward to establishing the Visitor Center as a major educational tourism destination.

Chairperson Peterson announced the order of the agenda would be rearranged and moved Agenda Items 10 and 11 forward.

ITEM 10. – EXECUTIVE SESSION

Motion by Mr. Wheeler and second by Ms. Lebrun to enter into executive session to discuss personnel matters and to consult with legal counsel concerning contractual matters. The motion passed unanimously.

The board recessed at 12:00 PM for Executive Session and reconvened at 12:50 PM.

Ms. Lebrun left the meeting after Executive Session.

ITEM 11. – REPORT FROM EXECUTIVE SESSION

Chairperson Peterson reported that the board discussed personnel matters and consulted with legal counsel concerning contractual and legal matters. No action was taken.

Motion by Mr. Wheeler and second by Dr. Bob Wilson to approve the executive session report. Motion passed unanimously with all four remaining members voting.

ITEM 8. – DISCUSS DRAFT PROGRAMMATIC AGREEMENT (LONG BASELINE NEUTRINO FACILITY)

Mr. Headley explained the draft Programmatic Agreement is part of the Environmental Assessment (EA) process required by the DOE which deals with Section 106 of the National Historic Preservation Act of 1966 (NHPA). The NHPA requires that the effects of federally funded projects on historic properties be considered. The draft agreement establishes the framework by which issues can be resolved, the steps that must be taken to do that, identifies who needs to be consulted, and lists entities excluded from that process. The document was developed in concert with the EA, the DOE has provided copies to all involved parties, and is asking for signatures. Mr. Engel has reviewed the document.

Chairperson Peterson called for a motion to authorize Executive Director Mike Headley to execute the document.

Motion by Dr. Bob Wilson and second by Mr. Wheeler to authorize the Executive Director to sign the draft programmatic agreement. Motion passed unanimously.

ITEM 9. – PDA - THIRD AGREEMENT BETWEEN HOMESTAKE AND SDSTA, SIGNED

Mr. Engel reported the Third Amendment to the Property Donation Agreement Between and Among Homestake Mining Company of California, the State of South Dakota and the South Dakota Science and Technology Authority, which authorized the SDSTA to insure its first \$5 million of risk through the Captive and also authorized repurposing of \$2.5 million of the Indemnification Fund to fund the Captive, has been signed. Its companion document, the Notice of Amendment to Deed, which incorporated changes from the three PDA amendments into the original 170-page Deed for the public record, has also been recorded with the Lawrence County Register of Deeds.

Chairperson Peterson thanked Mr. Engel for all his hard work on getting these documents in place.

ITEM 12. – CONFLICT OF INTEREST MITIGATION PLAN

Mr. Engel stated written processes were developed to deal with possible conflicts of interest concerning the Executive Director's dual employment with the SDSTA and Fermilab. Mr. Engel and Fermilab General Counsel drafted the proposed plan which describes examples of circumstances that may give rise to an actual or perceived conflict of interest, provides a process for identifying and addressing conflicts, establishes a mitigation process, and provides an annual review process.

Motion by Mr. Wheeler and second by Dr. Bob Wilson to approve the conflict of interest mitigation plan as presented. Motion passed unanimously.

ITEM 13. – CONFIRM DATE AND TIME OF NEXT MEETING

Chairperson Peterson asked that the next meeting be rescheduled from December 17 to December 10, 2015 at 9:00 AM (MT). Mr. Headley noted only highlights for the financials would be available because of the earlier meeting date.

Chairperson Peterson requested the March and June 2016 meetings be scheduled and proposed March 17 and June 16. These dates work for a majority of the board to attend in person or by teleconference.

ITEM 14. – BOARD COMMENTS

Dr. Bob Wilson stated it had been a very interesting and an informative first board meeting. He is impressed with Sanford Lab's operations and the preparation required to make these meetings go smoothly.

Mr. Christen agreed it had been a very good board meeting and thanked Mr. Headley for his efforts in ensuring all goes well.

Mr. Wheeler reiterated it had been a productive meeting and offered his compliments to Mr. Headley and the entire SDSTA staff. He also extended his appreciation to Ms. Bierle for her enthusiasm and a job well done.

Mr. Headley thanked the board and the agencies for their support of the SDSTA team, noting this support contributes to the Sanford Lab's success.

Dr. Heather Wilson noted she and Mr. Headley submitted a joint proposal to the National Science Foundation for a research experience for undergraduates from all across the United States to experience research projects going on at Sanford Lab, which would be hosted at SDSM&T. She is excited about the potential of this great partnership. Dr. Wilson reported there are 20 PhD, 3 Masters, and 54 undergraduate students enrolled in the Physics program this fall semester, which is becoming a signature program for the school. She also requested that SDSM&T's new provost and other new faculty members visit with Sanford Lab staff to understand all that will be transpiring with and identify research possibilities associated with the LBNF/DUNE Project.

Mr. Engel thanked those he works with on a daily basis for their responsiveness in keeping things moving forward.

Chairperson Peterson expressed his delight in the great news announced today about the loan for xenon. He is excited to have the Strategic Plan fully under way and encouraged everyone to keep up the great work.

ITEM 15. – ADJOURN

Chairperson Peterson asked if anyone had any other questions or comments, then called for a motion to adjourn.

Motion by Mr. Christen and second by Mr. Wheeler to adjourn. Motion passed unanimously.

Meeting adjourned at 1:06 PM.