

South Dakota Science and Technology Authority Board of Directors
Meeting Minutes
Thursday, September 22, 2016
Lead, South Dakota

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 8:05 AM Mountain Time (MT) on Thursday, September 22, 2016 in the Education & Outreach (E&O) Building 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
Vice Chairperson Dana Dykhouse
Secretary/Treasurer Patricia Lebrun
Chairperson Casey Peterson
Vice Chairperson Ron Wheeler

MEMBERS OF THE BOARD IN ATTENDANCE BY TELEPHONE

Dr. Heather Wilson (by phone)
Dr. Robert Wilson (by phone)

MEMBERS OF THE BOARD NOT IN ATTENDANCE

Dr. Ani Aprahamian

SDSTA STAFF

Ms. Billi Bierle, Sanford Lab Homestake Visitor Center Director
Mr. Tim Engel, Legal Counsel
Ms. Nancy Geary, Chief Financial Officer
Ms. Pam Hamilton, Project Controls Analyst
Mr. Mike Headley, Executive Director and Laboratory Director
Dr. Jaret Heise, Science Director
Ms. Sharon Hemmingson, Business Services and Contracts Manager
Ms. Mandy Knight, Administrative Services Manager
Mr. Ken Noren, SDSTA WWTP Foreman
Mr. KC Russell, Cultural Diversity Coordinator
Mr. Noel A. Schroeder, Environment, Safety and Health (ESH) Director
Mr. Allan Stratman, Director of Engineering
Ms. Constance Walter, Communications Director

ALSO PRESENT DURING ALL OR PART OF THE MEETING

Dr. June Apaza, Education and Outreach Director (BHSU)
Dr. Brianna Mount, Assistant Professor Research (BHSU)
Dr. Peggy Norris, E&O Deputy Director (BHSU)
Dr. Ben Saylor, Co-Director Sanford Center for Science Education (BHSU)

ITEM 1. CALL TO ORDER

Chairperson Peterson called the meeting to order at 8:05 AM (MT). Roll call was held. All members were present except Dr. Aprahamian.

Chairperson Peterson asked audience members to introduce themselves.

ITEM 2. APPROVE AGENDA

Chairperson Peterson asked for a motion to approve the agenda.

Motion by Mr. Dykhouse and second by Mr. Christen to approve the agenda. The motion passed unanimously.

ITEM 3. APPROVE MINUTES

Chairperson Peterson asked for comments, changes or corrections to the Minutes of the June 16 and June 29, 2016 meetings. Hearing none, a motion to approve was requested.

Motion by Mr. Wheeler and second by Ms. Lebrun to approve the Minutes of the June 16 and June 29, 2016 meetings as presented. The motion passed unanimously.

ITEM 4. CONFLICTS OF INTEREST DISCLOSURE AND WAIVER

SDSTA Legal Counsel Mr. Tim Engel reported that at the inaugural meeting of the state Board of Internal Control, one of the recommendations was that each entity subject to its jurisdiction include an agenda item to disclose general conflicts of interest. He asked if anyone has had a conflict of interest(s) since the last board meeting. Hearing none, Mr. Engel discussed Dr. Heather Wilson's position as ex-officio non-voting board member of the SDSTA Board of Directors and President of the South Dakota School of Mines and Technology (SDSMT) as it relates to conflicts of interest. He reported SDSMT is a party to research-related contracts with federal agencies and other state agencies, boards and offices including contracts with other public colleges and universities in South Dakota. Because Dr. Heather Wilson takes a salary from SDSMT, she is required by statute to disclose and request a waiver. The contracts disclosed have been included in the board packet, and she believes a waiver should be granted. On behalf of Dr. Heather Wilson, Mr. Engel requested that the board vote on her waiver.

Motion by Mr. Wheeler and second by Mr. Christen to grant a waiver for Dr. Heather Wilson as requested. The motion passed unanimously.

It was noted that Dr. Heather Wilson is a non-voting member and did not vote on a motion to grant a waiver.

ITEM 5. STATE BOARD OF INTERNAL CONTROLS UPDATE

Mr. Engel said the Board of Internal Control has adopted a state-wide code of conduct for state employees and that other entities subject to its jurisdiction, such as SDSTA, are required to adopt a code substantially similar to that applicable to state employees. He also reported that the Board of Internal Control is still working on the topic of internal controls generally, and may contract with an outside consultant to help with the accounting side of the internal control, and it could be a few months before any guidance is given. Currently, the SDSTA has some internal controls in place, but it may be appropriate to revise them after the Board has finalized its guidance.

ITEM 6. AUDIT COMMITTEE UPDATE

SDSTA Board member and Audit Committee Chair Ms. Pat Lebrun reported that the audit committee met by telephone on September 9; those present were Mr. Paul Christen, SDSTA Chief Financial Officer Ms. Nancy Geary and State Legislative Auditor Mr. Al Schaefer. Mr. Schaefer noted that because of increased funding with programs from Fermilab this year, a federal compliance audit will again be required. This additional audit will require additional time and money to complete. Mr. Schaefer plans to be at Sanford Lab in the next week and begin the audit. It was noted he will be working by himself this year. The audit should be completed by November. The Audit Committee will then review the audit and discuss any findings and present the audit to the board at the December meeting. Per statute, Audit Report approval will be requested at the March 2017 meeting.

Ms. Lebrun said the Audit Committee also met briefly early the morning of the September 22 board meeting to review the SDSTA Audit Charter. She said there were no changes to the charter being reviewed.

Motion by Ms. Lebrun and second by Mr. Dykhouse to request a financial audit by Legislative Auditor Mr. Al Schaefer to begin the last week in September 26, 2016. The motion passed unanimously.

ITEM 7. FINANCIAL REPORT

Ms. Geary discussed the financial report and summaries. She said the report also includes the yearly Inventory Listing and End-of-year Per Diem Listing. She said she included the Annual Financial Report dated June 30, 2016 and asked board members to comment prior to the end of October. Ms. Geary referred to a letter from the South Dakota Investment Council, and said the SDSTA had a very good year. She said the SDSTA's current interest accrual is 0.75 percent; however, the Investment Council is using an interest accrual of 1.35 percent for 2016.

In regard to the LUX-ZEPLIN (LZ) xenon agreements and infrastructure upgrades, the SDSTA has signed all three agreements. The board and SDSTA staff thanked Mr. Wheeler and all parties involved with this.

Motion by Mr. Wheeler and second by Mr. Christen to increase the interest earning accrual from 0.75% to 1% for fiscal year 2016. The motion passed unanimously.

ITEM 8. REPORT FROM EXECUTIVE DIRECTOR

ITEM 8A. SDSTA UPDATE

SDSTA Executive Director Mr. Mike Headley began with a slide presentation and discussed safety performance and said there were four total recordable injuries for 2016. He said the SDSTA is working with a local company to address current injuries and thanked Environment, Safety and Health (ESH) Director Mr. Noel A. Schroeder and his team for putting a program in place to help reduce injuries. He said SDSTA is focusing on ESH program improvement planning and setting near, mid and long-term goals. It was noted that the next ESH Oversight Committee meeting will be held December 13-15, 2016. The board expressed an interest to either sit in on the closeout on December 15 and/or meet the ESHOC members.

Chairperson Peterson said Black Hills Corporation (BHC) has hired Mr. Chad Hymas, an internationally-known expert on safety, to tour and meet all the BHC facilities and safety staff in January 2017. Chairperson Peterson spoke to BHC Director of Operations Mr. Mike Theis, who graciously invited SDSTA safety staff to attend Mr. Hymas' talk. Chairman Peterson thanked BHC for the opportunity.

In regard to federal funding, Mr. Headley said the Fiscal Year (FY) 2017 House and Senate budget marks are supportive of Sanford Lab operations and experiments. He said a continuing resolution is expected in the short term, and SDSTA hopes for an appropriation in the final funding bill for FY2017.

Mr. Headley said summer facility projects are near completion and that the Yates parking lot retaining wall and new sidewalk were completed yesterday. The Administration Building roof replacement is near completion. Deficiencies with the drains were found and are being addressed. He said that project should be done in the next month. The Yates tunnel project has been completed.

Mr. Headley said LZ is preparing for the Critical Decision-3 (CD-3) Review (construction approval). He said the Director's review is set for mid-November and the Department of Energy (DOE) is in mid-January. He said the University of South Dakota Foundation loan and contract are in place for the 500,000 liters of xenon. He noted that the Surface Laboratory modifications began last week and are expected to be completed in May 2017.

In regard to the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE), Mr. Headley said design plans are advancing and procurement is in process for a construction manager/general contractor. He said significant DUNE efforts have been applied to prototype liquid argon (LAr) detectors at CERN and Fermilab. The DUNE Collaboration meeting was held at Fermilab September 12-15 with over 200 attendees.

Mr. Headley said the LUX calibration campaign has been completed and decommissioning commenced in mid-September. Mr. Headley said he asked LUX to save a few pieces of the detector to display at the Visitor Center.

In regard to the MAJORANA DEMONSTRATOR, Mr. Headley said both modules are now operating in the main shield detector, Electroforming Lab decommissioning continues with equipment moved to Davis Campus and a DOE CD-4 Review (operations approval) is planned for September.

Mr. Headley said the Compact Accelerator for Performing Astrophysical Research (CASPAR) experiment is making adjustments to the accelerator tank based on the survey and alignment of the first beamline. An authorization request is expected soon for ion source commissioning. He said National Science Foundation (NSF) funding for CASPAR operations is in place at SDSMT.

Mr. Headley said Black Hills State University Underground Campus (BHUC) has been really successful with four detectors operational and evaluation of expansion possibilities continues for more low background counters. He said they are preparing for a year-long counting campaign for LZ components. SDSTA Board Member Dr. Robert Wilson mentioned that Soudan Lab in Minnesota is closing down some of its research projects and decommissioning. SDSTA Science Director Jaret Heise added that Sanford Lab has received some of that equipment. Dr. Robert Wilson offered his assistance if any additional equipment is needed from the Soudan Lab.

Mr. Headley noted the DOE Operations Subcontract with Lawrence Berkeley National Laboratory (LBNL) will come to a conclusion the end of September. The SDSTA is transitioning to a new contract through Fermilab; initially, there will be a three-month bridge contract. A new five-year contract is anticipated in October 2016. He thanked SDSTA Business Services and Contracts Manager Sharon Hemmingson, Ms. Geary and SDSTA Project Controls Analyst Ms. Pam Hamilton for their hard work.

With regard to the Ross Shaft Refurbishment, the contract is currently through LBNL but funded by the LBNF project. Mr. Headley said the new contract will transition to Fermilab in October 2016. He said this will require a new "Construction Easement", which is currently in process and noted that a telephonic board meeting will be required in a few weeks to approve it.

Mr. Headley said the next Cultural Advisory Committee (CAC) meeting will be in October. He introduced SDSTA Culture Diversity Coordinator Mr. KC Russell, who provided an update on CAC activities. Mr. Russell said he visited with all the Tribal Presidents/Chairpersons and Cultural Preservation Officers in the six state area and discussed the Programmatic Agreement and requested comments concerning the LBNF/DUNE plans. He said he also traveled to numerous schools with large Native American student populations to inform them about Sanford Lab. Mr. Russell also provided photos of the proposed land area that might be available for cultural consideration to students and instructors for ideas for its use. Lastly, he said a search is being conducted for new CAC members; there is much interest but no commitments yet.

ITEM 8C. WASTE WATER TREATMENT PLANT (WWTP) IMPROVEMENTS

Mr. Headley introduced SDSTA WWTP Foreman Mr. Ken Noren who gave a presentation on improvements at the WWTP. He discussed the WWTP in a flow diagram and explained the process automation. He said the previous pumping protocol was run by timer controls, but now the protocol is based on real time water levels. The process is viewable from the control room. He said there have been

equipment changes that include blower removal, rotating biological contactors (RBC) elimination (previously 48, presently 24) and clarifier removal. He also said there have been chemical changes that include lowering the amount of soda ash, eliminating phosphoric acid, slightly reducing coagulants and changing the flocculent completely. He then discussed the iron removal process and sewer recycle. In conclusion, Mr. Noren said the future plans include to reduce the number of RBCs to 12, run on gravity feed throughout the plant and eliminate night shift. The board commended Mr. Noren and the team for the great work at the WWTP.

ITEM 8D. DAVIS-BAHCALL UPDATE

BHSU Assistance Professor Dr. Brianna Mount provided a summary of the 2016 Davis-Bahcall Scholars program and said eight scholars participated in a five-week program in mid-June and July. She said the scholars spent two weeks at the Sanford lab, followed by a drive to Chicago, a week in Italy and then back to the Sanford Lab. She said highlights from South Dakota to Chicago leg included visits to the 3M facility in eastern South Dakota, a Microsoft facility in Fargo, physics facilities at the Universities of Minnesota and Wisconsin, and tours of both Fermilab and Argonne National Lab. Dr. Mount said that while in Italy, the group toured the Gran Sasso National Laboratory in L'Aquila as well as cultural attractions in Rome. They returned to Sanford Lab on their final days and helped facilitate education activities as part of Neutrino Day.

ITEM 8E. EDUCATION AND OUTREACH (E&O) BUILDING CONCEPTUAL DESIGN

Mr. Headley reported that the Facilities Master Plan (FMP) has been finalized and both the FMP and the Education and Outreach Building Conceptual Design booklets will be mailed out in the next week. He then introduced Ms. Hamilton, who worked with Mr. Steve Dangermond of Dangermond Keane Architecture and the many stakeholders on desired space in the E&O Building. She said there are several goals for the design. They are to: 1) Enhance the exterior and accessibility of the Administration and E&O Buildings; 2) Modernize the systems and energy usage; 3) Address the needs of the E&O program; 4) Better accommodate large meetings; 5) Provide space for an experiment control room that is visible and exciting to visitors, a new change from the 2012 design; and 6) Provide additional dry and office space for E&O, Science and SDSTA.

Mr. Dangermond then discussed the new conceptual design for the E&O Building in more detail, including a slide presentation.

ITEM 9. 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 9:30 AM for Executive Session and reconvened at 10:15 AM.

ITEM 10. REPORT FROM EXECUTIVE SESSION

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

Motion by Mr. Wheeler and second by Mr. Christen to approve the executive session report. The motion passed unanimously.

Chairperson Peterson announced Item 8B was skipped and asked Mr. Headley to describe the declaration of surplus property under that item.

ITEM 8B. DECLARATION OF SURPLUS PROPERTY

Mr. Headley reported that SDSTA had four concrete culverts that were in storage at the WWTP and those items no longer had operational use or value to SDSTA. The culverts have been sold.

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

ITEM 11. ELLISON HILL OPTION

Mr. Engel reported that there is in place today an option to purchase the Ellison Hill. During the last board meeting, the option was discussed and the chairperson was authorized to exercise the option. Mr. Engel said management has negotiated some changes with the option, a copy of which has been provided to the board. He said the SDSTA would still purchase the same property for the same price, terms and conditions and that the SDSTA would take the property "as is". He said the big change is that Homestake has agreed to share in the cost of environmental assessments up to \$50,000.00.

Motion by Ms. Lebrun and second by Mr. Christen to authorize the executive director to proceed with environmental assessment as appropriate, approve the terms of the amended and restated option and authorize the Chairperson to sign the amended restated option. The motion passed unanimously.

ITEM 12. SDSTA POLICIES AND PROCEDURES

Mr. Headley briefly discussed Policy 3.28 Delegation of Authority-Procurement as it relates to handling invoices if a person has a conflict or issue. He said that provision has been clarified and the language has been changed with good guidance and review from Mr. Engel.

Mr. Engel said he stated earlier that the state Board of Internal Control has adopted a code of conduct and required entities subject to its jurisdiction to adopt their own codes. The Board of Internal Control adopted the Bureau of Human Resources (BHR) employee policy manual as the state code of conduct. Mr. Engel and staff compared the existing SDSTA personnel policy manual to the BHR manual and found a few gaps. The proposed changes to the SDSTA policies will bring SDSTA into compliance with the code of conduct requirement imposed by the Board of Internal Control.

Motion by Mr. Wheeler and second by Mr. Dykhouse motioned to approve the updated Policies and Procedures as presented. The motion passed unanimously.

ITEM 13. CONFIRM DATE AND TIME OF NEXT MEETING

Chairperson Peterson asked if there were any concerns with the board meeting scheduled for Thursday, December 15, 2016 at 9:00 A.M. (MT). There were none. Administrative Services Manager Ms. Mandy Knight confirmed the December board meeting will be held in the Education and Outreach Building.

ITEM 14. BOARD COMMENTS

Mr. Wheeler commented on a good meeting and is glad Mr. Headley is back at SDSTA full time representing SDSTA on contractual matters. He also thanked Mr. Engel noting Mr. Engel does a lot of work in many areas for us and he appreciates it.

Mr. Dykhouse reiterated the sentiments expressed by Mr. Wheeler and said he appreciates the SDSTA staff and thanked Mr. Engel. He said a lot of work is involved with the contracts.

Mr. Christen also reiterated the sentiments by Mr. Wheeler and Mr. Dykhouse. He said he was glad to have Mr. Headley return to his original position and feels better not worrying about any possible conflicts. He thanked Mr. Engel for all his hard work as well as the staff for a great meeting.

Ms. Lebrun said this was another great meeting and is continually impressed with the professionalism of the SDSTA staff. She thanked Ms. Geary for making the board's life amazing and simple in regard to

finances. She also thanked SDSTA Communications Director Ms. Connie Walter as she provided a tour for Ms. Lebrun's family. She said her family is still talking about the lab and asking many questions.

Dr. Heather Wilson said from a resources side of things, three PhD students are working on CASPAR and it is great to have that opportunity for these students. She said the MAJORANA project's cleaning materials development has been prioritized and said it looks good for funding. Dr. Heather Wilson said the final good piece of news is the SDSMT is working with Center for Disease Control, which has an underground mine safety program, and there is possibility of a national deep underground mine safety training center in South Dakota. She said this could offer federal funding for multiple research projects.

Dr. Robert Wilson welcomed back to Mr. Headley full time to SDSTA and said he knows Mr. Headley will be missed at Fermilab. He also congratulated the board in regard to the contracts for purchasing xenon. He said this resource for the experiment makes a big impact with the federal agencies and scientist and the SDSTA board is supporting science directly in this way.

Mr. Engel thanked the board for the kind words but he said he works for them. He said the SDSTA staff is great and very professional. He said if he asks for a document or makes a request, the staff replies promptly and the board should be proud of them.

Mr. Headley said he would like to thank Ms. Knight and SDSTA Contracts Specialist Ms. Michele Baumann for organizing the meeting and keeping the meeting on task. He thanked the board for the great words and said the SDSTA has an amazing team. He reiterated Dr. Robert Wilson's words in regard to the xenon contracts. Lastly, Mr. Headley thanked Mr. Engel and the board for being in the SDSTA's corner and for helping the lab move forward.

Chairperson Peterson said he echoed Mr. Headley's words and said the xenon contracts are a tremendous accomplishment—smart negotiations and creative thinking. He thanked Mr. Engel for his invaluable expertise. He noted three welcomes and two goodbyes are warranted. He welcomed Mr. Headley back as well as Mr. Christen and Ms. Lebrun as they were both reappointed for another board term and will continue to serve on the audit committee. He said on a sad note that Rapid City Legislator Rep. Dan Dryden passed away and thanked him for his help supporting SDSTA and that he will be missed. He also expressed his thanks to former Sanford Lab Director Mr. Walter Weing for his service to the lab. He asked that a thank you letter be drafted for him to sign if the board feels that is appropriate. The board concurred.

Ms. Knight commented that planning is underway for three days of underground tours for SDSTA employee friends and family. She said the tours will be held on Saturday October 1, October 15 and November 5. She said employees are excited and happy to have the opportunity to share the happenings at the lab with friends and family.

Mr. Headley reported that Barrick General Council plans to visit the lab in October for a tour as well as the Barrick's Chief Executive Officer and his staff.

ITEM 15. ADJOURN

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

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

Meeting adjourned at 10:41 AM.