

**South Dakota Science and Technology Authority**

**Board Meeting  
March 29, 2018**



**South Dakota Science and Technology Authority**

630 East Summit Street  
Lead, SD 57754



**Call to Order – Chairperson Casey Peterson**

---

1A. Call Roll

Dr. Ani Aprahamian  
Mr. Paul Christen  
Mr. Dana Dykhouse  
Ms. Pat Lebrun  
Mr. Casey Peterson  
Mr. Ron Wheeler  
Dr. Robert Wilson  
Dr. James Rankin, ex-officio board member

1B. Introduce Guests

Page intentionally  
blank

**South Dakota Science and Technology Authority  
March 29, 2018 Board Meeting**

**Agenda Item: 02**

**Approve Agenda—Chairperson Casey Peterson**

---

Attached is the SDSTA Board agenda for the March 29, 2018 meeting.

---

**Recommended Action:**

*Motion to approve agenda as presented.*

Page intentionally  
blank

**AGENDA**  
**Meeting of the Board of Directors**  
**Thursday, March 29 at 8:00 AM (MT)**

**\*\*Yates Education & Outreach Conference Room\*\***

**Public (Open) Session: 1-866-740-1260, Access Code: 7228650, [www.readytalk.com](http://www.readytalk.com)**

SDSTA Mission: *To advance compelling underground, multidisciplinary research in a safe work environment and to inspire and educate through science, technology and engineering.*

Title	Report	Recommendations
1. Call to Order A. Call Roll B. Introduce Guests	-- Chair Casey Peterson	<i>Informational</i>
2. Approve Agenda	-- Chair Casey Peterson	<i>Motion to approve agenda</i>
3. Approve Minutes	-- Chair Casey Peterson	<i>Motion to approve December 14, 2017 minutes as presented</i>
4. Conflicts Disclosure	-- Mr. Tim Engel	
5. Waivers under SDCL CH. 3-23	-- Mr. Tim Engel	<i>Grant waiver or decline to grant waiver</i>
6. Code of Conduct	-- Mr. Tim Engel	
7. 2018 Legislative Update	-- Mr. Tim Engel	<i>Informational</i>
8. Audit Committee Report A. Approval of Audit Report FY Ended June 30, 2017 B. Discussion of SDSTA internal control audit	-- Ms. Pat Lebrun	<i>Motion to accept Audit Report Fiscal Year Ended June 30, 2017 as reviewed and discussed at December 14, 2017 board meeting</i>
9. February Financial Report and Statements	-- Mr. Mike Headley -- Ms. Nancy Geary	<i>Motion to accept report as presented</i>
10. Report from Executive Director A. SDSTA Quarterly Update B. Declaration of Surplus C. Science Update	-- Mr. Mike Headley  -- Dr. Jaret Heise	<i>All informational</i>  <i>Motion to accept executive director's report</i>
11. New design of the SDSTA Policies and Procedures/Employee Handbook	-- Mr. Mike Headley	<i>Informational; hard copies will be distributed at board meeting</i>
12. Update on SDSTA Business Advisory Council	-- Vice-Chair Ron Wheeler	<i>Informational</i>
13. Executive Session (closed meeting)	-- Chair Casey Peterson	<i>Motion to enter executive session to discuss personnel matters and to consult with legal counsel concerning contractual matters</i>
14. Report from Executive Session	-- Chair Casey Peterson	<i>Motion to accept executive session report</i>

Please do not place or accept cell phone calls during this meeting. A copy of this agenda has been posted in a manner visible to the public at the entrance to the South Dakota Science and Technology Authority office located at 630 East Summit Street, Lead, South Dakota at least 72 hours prior to this meeting. Telephone: (605) 722-8650.

**AGENDA**  
**Meeting of the Board of Directors**  
**Thursday, March 29 at 8:00 AM (MT)**

**\*\*Yates Education & Outreach Conference Room\*\***

*Public (Open) Session: 1-866-740-1260, Access Code: 7228650, [www.readytalk.com](http://www.readytalk.com)*

<b>Title</b>	<b>Report</b>	<b>Recommendations</b>
<b>15.</b> Executive Compensation Adjustment	-- Vice-Chair Ron Wheeler	
<b>16.</b> Select Nominating Committee	-- Chair Casey Peterson	<i>Election of officers to be held at the annual board meeting in June</i>
<b>17.</b> Confirm date and time of next meeting	-- Chair Casey Peterson	<i>Thursday, June 28 at 8:00am (MT)</i>
<b>18.</b> Public Comments		
<b>19.</b> Board Comments		
<b>20.</b> Adjourn	-- Chair Casey Peterson	<i>Motion to adjourn</i>

**SDSTA Board Member Terms of Service, Committees and Schedule**

<b>Board Members and Terms of Service</b>			
	<b>Board Members</b>	<b>Appointed</b>	<b>Term Expires</b>
1.	Dr. Ani Aprahamian	Re-appointed December 10, 2015	December 9, 2021
2.	Mr. Paul Christen	Re-appointed August 5, 2016	August 8, 2022
3.	Mr. Dana Dykhous, Vice-Chair	Re-appointed August 1, 2014	August 14, 2020
4.	Ms. Patricia Lebrun, Secretary-Treasurer	Re-appointed August 5, 2016	August 8, 2022
5.	Mr. Casey Peterson, Chair	Re-appointed August 25, 2015	August 8, 2021
6.	Mr. Ron Wheeler, Vice-Chair	Re-appointed April 10, 2014	April 9, 2020
7.	Dr. Robert Wilson	August 24, 2015	August 8, 2021
8.	Dr. James Rankin, <i>ex-officio member</i>	SDSM&T President as of Jan 8, 2018	
<b>Committees and Members (2017-2018)</b>			
	<b>Audit Committee Members:</b>	<b>Nominating Committee Members:</b>	
	➤ Pat Lebrun-Chair	➤ Ani Aprahamian	
	➤ Paul Christen	➤ Dana Dykhous	
	➤ Casey Peterson, <i>ex-officio</i>		
<b>2018 Board Schedule</b>			
	Thursday, March 29, 2018	8:00 am (MT)	E&O Bldg
	Thursday, June 28, 2018	8:00 am (MT)	E&O Bldg
	Tuesday, September 18, 2018	8:00 am (MT)	E&O Bldg
	Thursday, December 13, 2018	9:00 am (MT)	E&O Bldg, lunch

Please do not place or accept cell phone calls during this meeting. A copy of this agenda has been posted in a manner visible to the public at the entrance to the South Dakota Science and Technology Authority office located at 630 East Summit Street, Lead, South Dakota at least 72 hours prior to this meeting. Telephone: (605) 722-8650.



**Approve Minutes—Chairperson Casey Peterson**

---

Attached is the SDSTA Board Minutes from December 14, 2017 for review and approval.

---

**Recommended Action:**

*Motion to approve the Minutes of the December 14, 2017 meeting as presented.*

Page intentionally  
blank

**South Dakota Science and Technology Authority Board of Directors**  
**Meeting Minutes**  
**Thursday, December 14, 2017**  
**Lead, South Dakota**

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 9:00AM Mountain Time (MT) on Thursday, December 14, 2017 in the Education and 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**

Dr. Ani Aprahamian (by phone)  
Mr. Paul Christen (in person)  
Mr. Dana Dykhouse (by phone)  
Secretary/Treasurer Patricia Lebrun (in person)  
Chairperson Casey Peterson (in person)  
Dr. Jan Puszynski (in person)  
Vice Chairperson Ron Wheeler (in person)  
Dr. Robert Wilson (by phone)

**SDSTA STAFF**

Mr. Tim Engel, Legal Counsel  
Ms. Nancy Geary, Chief Financial Officer  
Mr. Mike Headley, Executive Director  
Ms. Mandy Knight, Administrative Services Manager  
Mr. KC Russell, Cultural Diversity Coordinator  
Mr. Allan Stratman, Engineering Director  
Ms. Constance Walter, Communications Director

**ALSO PRESENT DURING ALL OR PART OF THE MEETING**

Dr. June Apaza, Education and Outreach Director  
Dr. Becky Bundy, Education and Outreach Science Education Specialist (BHSU)  
Ms. Julie Dahl, Education and Outreach Science Education Specialist (BHSU)  
Ms. Donna Job, Sanford Lab Homestake Visitor Center Executive Director  
Dr. Peggy Norris, Education and Outreach Deputy Director (BHSU)  
Ms. Jaci Pearson, Journalist for Black Hills Pioneer  
Mr. Torin Peterson, son of Chairperson Casey Peterson  
Dr. Ben Saylor, Sanford Science Education Center Director (BHSU)  
Mr. Jim Sheridan, guest of Board Member Mr. Christen  
Ms. Kari Webb, Education and Outreach Science Education Specialist (BHSU)  
Mr. Joshua Willhite, LBNF Far Site Conventional Facilities Project Manager (Fermilab)

**ITEM 1. CALL TO ORDER**

Chairperson Peterson called the meeting to order at 9:00 AM (MT). Roll call was held. All attendees were present in person except Dr. Ani Aprahamian, Mr. Dana Dykhouse and Dr. Robert Wilson, who joined by telephone.

Chairperson Peterson then asked audience members to introduce themselves.

*Ms. Pat Lebrun attended the meeting in person at 9:01am.*

Mr. Headley introduced Ms. Donna Job to the board and congratulated her as the new the Sanford Lab Homestake Visitor Center Executive Director.

## **ITEM 2. APPROVE AGENDA**

Chairperson Peterson asked if there were any modifications to the agenda and hearing none asked for a motion to approve the agenda.

*Motion by Mr. Christen and second by Dr. Wilson to approve the agenda as presented. Motion passed unanimously.*

## **ITEM 3. CONFLICT OF INTEREST DISCLOSURE**

SDSTA Legal Counsel Mr. Tim Engel reminded the board members that if they have anything that might be a conflict of interest now would be the time to mention it.

Mr. Engel then discussed Item No. 5 on the agenda.

## **ITEM 5. DISCLOSURES AND WAIVER UNDER SDCL CH. 3-23**

Mr. Engel said an email was sent earlier in the month to poll the board about formal disclosures required by the statutes and that he did not hear anything from any board member requiring a formal disclosure. He then asked if the board had anything to disclose. Hearing none, he said that the Board of Internal Control has been working on a Code of Conduct for Boards and Commissions and is a work o-in progress. He said it will apply to this board and he is monitoring it.

*Mr. Dana Dykhouse joined the meeting by phone at 9:05am.*

Mr. Engel said to Mr. Dykhouse they were discussing item No. 5 and asked if he had anything to disclose. Mr. Dykhouse replied First Premiere Bank has a contract for banking services with the state of South Dakota but he has no financial interest in First Premier Bank. Mr. Engel said no further formal disclosure is required.

## **ITEM 6. REPORT FROM AUDIT COMMITTEE**

SDSTA Board member and Audit Committee Chair Ms. Patricia Lebrun reported that the Audit Committee held a teleconference on October 25 to discuss the Audit Report for Fiscal Year Ended June 30, 2017. She said the audit was clean thanks to the SDSTA Finance staff. She said Mr. Al Schaefer of the South Dakota Department of Legislative Audit was complimentary of the SDSTA and the Finance Office for their proficiency. Ms. Lebrun said there were no findings during the audit. There was a recommendation that an SDSTA employee visit unannounced and physically exam the xenon stored at SLAC National Accelerator Laboratory on an annual basis. Mr. Headley confirmed he physically examined the stored xenon at SLAC after attending an LZ Director's Review in California this last month. Ms. Lebrun then said an action item to approve the audit report will be necessary at the March 2018 board meeting.

*Motion by Mr. Wheeler and second by Mr. Dykhouse to accept the Audit Committee Report and to request Audit Report approval at the next regularly scheduled board meeting per statute. The motion passed unanimously.*

Chairperson Peterson then reverted to Item No. 4 on the agenda.

## **ITEM 4. APPROVE MINUTES**

Chairperson Peterson asked for any corrections to the Minutes of the September 21, 2017 meeting. There were none.

*Motion by Mr. Wheeler and second by Mr. Dykhouse to approve the Minutes of the September 21, 2017 meeting as presented. Motion passed unanimously.*

## **ITEM 7. FINANCIAL REPORT**

Chairperson Peterson thanked SDSTA Chief Financial Officer Ms. Geary and her staff for doing a great job on the clean audit and also thanked the Audit Committee for their work. Ms. Geary then presented the November Financial report and said the SDSTA is going through several audits and reviews. Also, the transition from Berkeley Risk to Dakota Underwriters through Williams Insurance Co. for Worker's Compensation has been finalized with a reduction in the rates. Ms. Geary said a Fermilab Audit is being conducted on FY2017 invoices for the operations contract, and Fermilab is reviewing the indirect rate cost and employee benefit rate calculation from the end of FY2017. She asked if there were any questions. Ms. Lebrun said she reviewed a copy of the Fermilab audit letter and it stated Fermilab was also looking at the financial controls. Ms. Geary replied yes and said this is the second year of audit on the financial controls as well as the accounting system; this will likely be conducted annually.

*Motion by Mr. Christen and second by Ms. Lebrun to accept the financial report as presented. The motion passed unanimously.*

## **ITEM 8. REPORT FROM THE EXECUTIVE DIRECTOR**

### **ITEM 8A. SDSTA Update**

Mr. Headley began with a slide presentation and discussed safety performance and said there have been five recordable injuries for SDSTA employees for 2017. He said it is certainly higher than the SDSTA would like it to be but the last 2-3 months have been quite good. He said the Environment, Safety and Health (ESH) Director position has been filled by Mr. Larry Jaudon, who will start next week. Mr. Jaudon has over 30 years of experience in underground safety with mining, construction and operations. Mr. Jaudon is an OSHA and MSHA certified instructor and a Certified Mine Safety Professional. Mr. Headley said several members on the ESH Oversight Committee have made offers for Mr. Jaudon to visit some of the national laboratories to get a feel for national lab safety operations.

He said the SDSTA is spending a great deal of time reorganizing and updating the ESH Manual as it was created in the 2009-2010 timeframe and there are areas that need to be updated. The ESH Fermilab team has been helping with the chapters dealing with work planning and controls, emergency management/response, explosives management, and incident reporting and investigation.

Five staff attended Human Performance Improvement (HPI) training in Salt Lake City and the SDSTA is implementing the principles learned.

Mr. Headley said the SDSTA has been working with Alaris, a company that provides occupational nurse and medical support. He said a full-time occupational nurse has been secured and will work five days a week, day shift starting in March. Mr. Headley said he has talked to several groups in regard to implementing injury reduction and management programs and this has been a key element in their programs. The nurse will also help develop an SDSTA Wellness Program. Chairperson Peterson asked if the person will be a contractor and Mr. Headley replied yes.

Mr. Headley provided status updates on Federal funding for FY2017 and FY2018. He said Mr. Wheeler and Fermilab staff visited with individuals in Washington, D.C. to advocate increasing FY2018 funding for the Long-Baseline Neutrino Facility/Deep Underground Neutrino Facility (LBNF/DUNE) to \$95 Million. Mr. Wheeler said there is strong support.

In regard to LBNF construction, he said Mr. Willhite will cover the topic in more detail during his presentation but said the Ross Shaft refurbishment project reached the 4850L on October 12 and an appreciation luncheon is being planned for December 21. Refurbishment is six sets below the 4850L.

He said the Compact Accelerator for Performing Astrophysical Research (CASPAR) accelerator commissioning continues since the July 2017 ribbon cutting, and they are planning the first beam on target in January.

Mr. Headley said the LUX-ZEPLIN (LZ) experiment construction is underway at various facilities off-site and the cryostat will arrive onsite for Surface Lab assembly starting in January. Also, LZ modifications to the 4850L Davis Campus will commence in January. He said the xenon procurement remains on track and the SDSTA has received 900,000 of the 1.5M liters purchased.

He said the Majorana Demonstrator (MJD) continue to operate and had recently released a paper on their background results. The collaboration has formed with MJD and GERmanium Detector Array (GERDA)—called Large Enriched Germanium Experiment for Neutrinoless  $\beta\beta$  Decay (LEGEND) towards a tonne-scale experiment.

In regard to the Ellison Hill property purchase, Mr. Headley said the asbestos has been mitigated. Plans are in the works to transition core archived from the Machine Shop to the Drill/Bit Shop and Old High Compressor Building in the spring.

Mr. Headley then showed several photos of his visit to SLAC where he physically examined the xenon storage. He said several cylinders are being stored in sea containers in addition to basement storage in locked cages. Each cylinder contains 10,000 liters of xenon and weighs approximately 220lbs when filled.

Mr. Engel pointed out from the photos that the xenon is locked up and asked if there are any other security measures. Mr. Headley confirmed and said SLAC's site is access controlled and individuals are required to pass a guard gate. He said in regard to the SLAC facility system, each cylinder is numbered and registered as a building so they are tracked from an inventory perspective. Chairperson Peterson asked if the xenon is insured and Mr. Headley replied yes. Mr. Headley answered several other xenon storage questions and then moved on to cultural activities.

Mr. Headley said Cultural Diversity Coordinator Mr. KC Russell participated in and presented to participants at the 2017 SD Indian Education Summit in Pierre. He said Mr. Rylan Sprague has resigned from the Cultural Advisory Committee (CAC) as he has accepted a new job in Washington state. The SDSTA has recruited a prospective CAC member who is a Cheyenne River Sioux Tribal member and a civil engineering graduate of the SD School of Mines and Technology. Also, Mr. Russell assisted the STARBASE Program to set up academies at the Pierre Learning Center which provides education for tribal member students. Several SDSTA staff attended a special honoring and naming of the Jace DeCory Center for American Indian Studies at BHSU in October. Ms. DeCory recently retired as a BHSU professor and was a great partner to work with at Sanford Lab. Also, staff attended National Historic Preservation Act, Section 106 training in Denver as required by the Programmatic Agreement.

Mr. Headley then introduced Education & Outreach (E&O) Director Dr. June Apaza to give a brief update on E&O activities. Dr. Apaza began with the numbers relating to classroom presentations, students at the presentations, units completed, students that completed the units, units currently being taught and numbers of teachers in the online class (since the beginning of the school year, September 1, 2017).

Dr. Apaza discussed the online professional development and said teachers earn graduate credits in education, not re-certification. She also said the E&O team covered an additional three counties in the

state, but with winter approaching, it will be more difficult to travel to many of the schools. In regard to current Research & Development efforts, curriculum units that are in the works at the high school, middle school and elementary schools include, respectively: “It’s Electric”, “Argon-Transfer Challenge” and “As a Matter of Fact!”

Dr. Apaza displayed the online professional development website and said Science Education Specialist Ms. Kari Webb has taken the lead on this.

Ms. Lebrun asked how teachers are made aware of the program, and Dr. Apaza said the E&O team sent information to the teachers that participated in last summer’s workshop and then to several teachers and school districts they have worked with in the past.

Mr. Headley returned to a xenon storage/inventory question and confirmed there are 76 cylinders in the sea container and 30 in the basement of the lab for a total of 106 cylinders.

### **ITEM 8C. Long Baseline Neutrino Facility (LBNF) Update**

Mr. Headley introduced LBNF FSCF Project Manager Mr. Joshua Willhite who began his presentation with the number of collaborators (1032), institutions (176) and nations (31) in the DUNE (Deep Underground Neutrino Experiment) Collaboration. He said on September 20, the United Kingdom announced an \$88M (£65M) commitment towards DUNE, LBNF and the Proton Improvement Program (PIP)-II and is the first major commitment from a country. (PIP-II is at Fermilab and is a separate project from LBNF/DUNE but has a strong contribution to the success of LBNF/DUNE by providing a higher energy neutrino beam). He also displayed photos of the ProtoDUNE progress at CERN and the single-phase detectors.

Mr. Willhite recapped the Groundbreaking held on July 12, 2017 and said there is strong support from all entities across the world.

He reminded the board that Kiewit/Alberici Joint Venture (KAJV) was selected as the General Contractor/General Manager (CM/GC) for the LBNF project. KAJV’s initial scope is bidding pre-excavation work and supporting final design. Mr. Willhite said the most significant near-term work is to establish a system for handling excavated rock and plan a pipe conveyor system.

He said LBNF is working with a pipe conveyor design and manufacturing team to finalize the design of the pipe conveyor and begin construction. He discussed all the teams involved with the pipe conveyor, the conveyor route, geotechnical analysis, easements, conveyor general appearance, conveyor enclosures and pipe conveyor discharge. He said KAJV held an outreach meeting in the area and approximately 150 local and regional individuals attended; a very strong turnout.

Mr. Willhite discussed other upcoming work by KAJV and other near term (next couple of years) projects not in the KAJV scope. He said additional office space is being planned for the LBNF team in the Ross Dry as the Administration Building offices are completely full and there is no additional space available. Fermilab recently hired a Logistics Manager, Elizabeth Hilgart, to develop plans to get all the parts and pieces not managed by the KAJV to Lead. Fermilab also hired a new Construction Coordinator and that person will start on January 8; two additional Construction Coordinators are planned in the future. The Department of Energy is currently seeking a Procurement Administrator representative to spend 50% of their time in Lead (but based at Fermilab).

### **ITEM 8B. Declarations of Surplus Property**

Mr. Engel said the declarations of surplus property in the board packet are within the Executive Director’s authority to approve, but given the dollar amount of the timber declaration, he suggested the chairperson request a motion to approve it. Chairperson Peterson then requested a motion.

*Motion by Mr. Christen and second by Mr. Wheeler to approve the timber declaration of surplus as presented. Motion passed unanimously.*

Chairperson Peterson asked Mr. Headley and Mr. Willhite to further address the Ross Dry Space discussed in 8C.

Mr. Willhite discussed the Ross Dry Space depicted in a slide. He said the LBNF project would like to include the blue-colored areas (two office spaces, handicapped accessible ramp and bathrooms and HVAC equipment spaces) in the lease agreement. Mr. Headley said they are expecting to receive a modification to the lease agreement to add these spaces.

*Motion by Mr. Wheeler and second by Ms. Lebrun to authorize the chairperson to sign an amended or modified lease to include the additional space in the Ross Dry as presented. The motion passed unanimously.*

*Motion by Ms. Lebrun and second by Mr. Wheeler to accept the executive director's report as presented. Motion passed unanimously.*

### **ITEM 9. LOBBYIST REGISTRATION**

Mr. Engel said the SDSTA does not have legislative agenda items this upcoming session, but he said it is important to have a presence during the legislative session. Invariably, if an item arises that may have an impact on the SDSTA, it is good to have a representative there. Mr. Engel recommended the board approve Mr. Headley, Mr. Wheeler and Mr. Engel as lobbyists for the 2018 Legislative Session and said a formal authorization was needed for Administrative Services Manager Ms. Mandy Knight to register them.

*Motion by Ms. Lebrun and second by Mr. Wheeler to designate Mr. Mike Headley, Mr. Ron Wheeler and Mr. Tim Engel as lobbyists for the SDSTA. By roll call vote, the motion passed unanimously.*

### **ITEM 10. SDSTA POLICIES AND PROCEDURES**

Mr. Headley briefly discussed the updated Whistleblower Policy and said there was a provision inserted back when Mr. Headley was supporting the LBNF project more directly and a conflict of interest plan was put in place. He said it no longer applies and the language has been removed. (The policy was reviewed by Mr. Engel).

*Motion by Mr. Wheeler and second by Mr. Dykhouse to approve the updated Whistleblower Policy, as presented. By roll call vote, the motion passed unanimously.*

### **ITEM 11. EXECUTIVE SESSION**

*Motion by Dr. Wilson and second by Mr. Wheeler to enter into executive session to discuss personnel matters and to consult with legal counsel concerning contractual matters. Motion passed unanimously.*

*The board recessed at 10:26 AM for a break, followed by Executive Session and then reconvened at 11:36 AM.*

*Dr. Aprahamian and Dr. Wilson rejoined the meeting by phone.*

*Mr. Dykhouse was unable to rejoin the meeting by phone.*



## **ITEM 12. REPORT FROM EXECUTIVE SESSION**

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

*Motion by Ms. Lebrun and second by Mr. Christen to approve the executive session report. Motion passed unanimously.*

## **ITEM 13. CONFIRM 2018 BOARD SCHEDULE**

Chairperson Peterson asked if board members had a chance to review the 2018 meeting schedule. Mr. Wheeler suggested the December 22 meeting be rescheduled to December 13 since the date is close to the holidays and schedule conflicts may arise. Mr. Headley noted that the financials may not be ready by then but the board said that it is understandable and concurred to move the meeting to December 13 at 9:00 AM (MT).

## **ITEM 14. BOARD COMMENTS**

Dr. Ani Aprahamian said she is glad she could attend the board meeting by phone and it is good to hear about the progress at Sanford Lab.

Dr. Wilson said everything is going well and he is impressed with the education and outreach. He said the core team at Sanford Lab is doing a great job and thanked everyone.

Dr. Puszynski said the new president at SDSM&T will start on January 8 and he will step down at that time. He said their first PhD student in physics will graduate this weekend and will officially complete his studies in the summer. Dr. Puszynski said it is important to increase the number of students at SDSM&T and the SD Board of Regents has approved a special non-resident tuition program for Nebraska students. He said Colorado/Montana students who earn a 3.5 grade point average with a minimum of a 27 ACT score would be also eligible.

Mr. Wheeler reiterated that Mr. Headley and the core staff are doing wonderful. He also wished everybody Happy Holidays and to stay safe.

Mr. Christen said the SDSTA staff is doing a terrific job. He said one of his main concerns is to keep the projects on time. He said he was happy the position is filled for the Sanford Lab Homestake Visitor Center executive director and hopes it works out well. He said he is very happy a new safety director has been hired. He wished everyone a Merry Christmas.

Ms. Lebrun said this was another great meeting and thanked the staff that helps the meetings go so smoothly and appreciates the efficiency of having board materials ready. She said she neglected to mention during Item No. 6 Report on Audit Committee that the state auditor had asked if the SDSTA had ever had an internal control audit. She said there has never been this type of audit and recommended including an item to discuss an internal control on the March 22, 2018 agenda. Chairperson Peterson concurred. She thanked everyone and wished everyone a nice Holiday Season.

Mr. Mike Headley thanked the board for the partnership and support this last year. He said it is great to know the board supports the SDSTA. He thanked Ms. Knight for organizing and supporting the meeting as well recognized the great work of the SDSTA team. He said he is looking forward to Mr. Jaudon starting and realizes the SDSTA safety program needs to be strengthened. He wished everyone a Happy Holidays and a great Christmas.

Mr. Tim Engel thanked the board for the opportunity. He said he really enjoys the work as well as working with the SDSTA team. He said his work-related requests to SDSTA staff are timely and he never has to worry about that which is very helpful to get his job done. He wished everyone a great holiday.

Mr. Headley commented Science Director Dr. Jaret Heise, Communications Director Constance Walter and he will be in Pierre on Monday to talk to the Rotary Club at noon and to talk at the Discovery Center at 6pm if board members are in the area and would like to stop by. He said the Sanford Lab briefing to the legislature is scheduled for January 11. Also, Mr. Engel said he and Mr. Headley spent several hours the day before Thanksgiving with the Governor's staff to discuss the possibility of a cooperative agreement.

Chairperson Peterson said he is amazed that in 2018, the SDSTA will be celebrating its 15<sup>th</sup> Anniversary. He thanked Mr. Willhite, Mr. Headley, Ms. Knight and staff and said he appreciates everyone stepping up and rising to the challenges. He also appreciates the board stepping up as well and Mr. Wheeler with funding as it is a big deal. Fermilab is a big part of SDSTA's life but they are also dependent on us. Chairperson Peterson thanked everyone for all they have done and wished everyone a Merry Christmas.

#### **ITEM 15. ADJOURN**

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

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

Chairperson Peterson reminded those present to stay for lunch.

**Meeting adjourned at 11:49AM.**

**Conflict of Interest Disclosure—Mr. Tim Engel**

---

Page intentionally  
blank

**Waiver Under SDCL CH. 3-23—Mr. Tim Engel**

---

---

**Recommended Action:**

*Grant waiver or decline to grant waiver.*

Page intentionally  
blank

**Code of Conduct—Mr. Tim Engel**

---

---

**Recommended Action:**

Page intentionally  
blank



**2018 Legislative Update—Mr. Tim Engel**

---

---

**Recommended Action:**

*None.*

Page intentionally  
blank

**Audit Committee Update—Ms. Pat Lebrun, Chairperson**

---

- A. The Audit Report for Fiscal Year Ended June 30, 2017 was discussed at the December 14, 2017 board meeting and requested for acceptance at the March 2018 meeting; see attached Audit Report.
- B. Discussion of an SDSTA internal control audit.

---

**Recommended Action:**

*Motion to accept the Audit Report for Fiscal Year Ended June 30, 2017.*

Page intentionally  
blank

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**AUDIT REPORT**

**Fiscal Year Ended June 30, 2017**



**State of South Dakota**  
**Department of Legislative Audit**  
427 South Chapelle  
% 500 East Capitol  
Pierre, SD 57501-5070

SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY  
AUTHORITY OFFICIALS  
June 30, 2017

Board of Directors:

Casey Peterson, Chairman  
Dana Dykhouse, Vice-Chairman  
Ron Wheeler, Vice-Chairman  
Pat Lebrun, Secretary/Treasurer  
Dr. Robert Wilson, Member  
Dr. Ani Aprahamian, Member  
Paul Christen, Member  
Dr. Jan Puszynski, Ex-Officio Member

Executive Director:

Michael Headley

Chief Financial Officer:

Nancy Geary

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY  
TABLE OF CONTENTS

	<u>Page</u>
Independent Auditor’s Report on Internal Control Over Financial Reporting and on Compliance and other Matters Based on an Audit of Financial Statements Performed in Accordance With Government Auditing Standards .....	1
Independent Auditor’s Report on Compliance for Each Major Federal Program and Report on Internal Control Over Compliance Required by the Uniform Guidance .....	3
Schedule of Prior Audit Findings .....	5
Schedule of Current Audit Findings and Questioned Costs .....	5
Independent Auditor’s Report .....	6
<i>Management’s Discussion and Analysis (MD&amp;A)</i> .....	8
<i>Basic Financial Statements:</i>	
As of June 30, 2017:	
Statement of Net Position .....	16
For the fiscal year ended June 30, 2017:	
Statement of Revenues, Expenses and Changes in Net Position .....	17
Statement of Cash Flows .....	18
Notes to the Financial Statements .....	20
<i>Required Supplementary Information Other than MD&amp;A:</i>	
Schedule of Proportionate Share of the Net Pension Liability (Asset) .....	34
Schedule of Employer Contributions.....	35
Notes to Required Supplemental Information .....	36
<i>Supplementary Information:</i>	
Schedule of Operating Expenses .....	38
Schedule of Expenditures of Federal Awards .....	39
Notes to Schedule of Expenditures of Federal Awards .....	40



427 SOUTH CHAPELLE  
C/O 500 EAST CAPITOL  
PIERRE SD 57501-5070  
(605) 773-3595

MARTIN L. GUINDON, CPA  
AUDITOR GENERAL

**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER  
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS  
BASED ON AN AUDIT OF FINANCIAL STATEMENTS  
PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

The Honorable Dennis Daugaard  
Governor of South Dakota

and

Board of Directors  
South Dakota Science and Technology Authority

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the South Dakota Science and Technology Authority (Authority), a business-type activities component unit of the State of South Dakota, as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements and have issued our report thereon dated October 25, 2017.

**Internal Control Over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

*A deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. *A material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the Authority's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.



## Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standard*.

## Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose. As required by South Dakota Codified Law 4-11-11, this report is a matter of public record and its distribution is not limited.



Martin L. Guindon, CPA  
Auditor General

October 25, 2017



427 SOUTH CHAPELLE  
C/O 500 EAST CAPITOL  
PIERRE SD 57501-5070  
(605) 773-3595

MARTIN L. GUINDON, CPA  
AUDITOR GENERAL

**INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM  
AND REPORT ON INTERNAL CONTROL OVER COMPLIANCE REQUIRED BY THE UNIFORM  
GUIDANCE**

The Honorable Dennis Daugaard  
Governor of South Dakota

and

Board of Directors  
South Dakota Science and Technology Authority

**Report on Compliance for Each Major Federal Program**

We have audited the South Dakota Science and Technology Authority's (Authority), a business-type activities component unit of the State of South Dakota, compliance with the types of compliance requirements described in the *U.S. Office of Management and Budget (OMB) Compliance Supplement* that could have a direct and material effect on each of the Authority's major federal programs for the year ended June 30, 2017. The Authority's major federal programs are identified for the State of South Dakota Single Audit and included in the summary of auditor's results section of the accompanying Schedule of Current Audit Findings and Questioned Costs.

**Management's Responsibility**

Management is responsible for compliance with federal statutes, regulations, contracts, and grants applicable to its federal programs.

**Auditor's Responsibility**

Our responsibility is to express an opinion on compliance for each of the Authority's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Authority's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination on the Authority's compliance.

## Opinion on Each Major Federal Program

In our opinion, the Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2017.

## Report on Internal Control Over Compliance

Management of the Authority is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Authority's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control over compliance.

*A deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

## Purpose of this Report

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purposes. As required by South Dakota Codified Law 4-11-11, is a matter of public record and its distribution is not limited.



Martin L. Guindon, CPA  
Auditor General

October 25, 2017

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY  
SCHEDULE OF PRIOR AND CURRENT AUDIT FINDINGS AND QUESTIONED COSTS

**SCHEDULE OF PRIOR AUDIT FINDINGS**

**Prior Federal Audit Findings:**

The prior audit report contained no written federal audit findings.

**Prior Other Audit Findings:**

The prior audit report contained no written other audit findings.

**SCHEDULE OF CURRENT AUDIT FINDINGS AND QUESTIONED COSTS**

Summary of the Independent Auditor's Results:

**Financial Statements**

- a. An unmodified opinion was issued on the financial statements.
- b. No material weaknesses or significant deficiencies were disclosed by our audit of the financial statements.
- c. Our audit did not disclose any noncompliance which was material to the financial statements.

**Federal Awards**

- d. An unmodified opinion was issued on compliance with the requirements applicable to major programs.
- e. Our audit did not disclose any audit findings that are required to be reported in accordance with 2 CFR 200.516(a).
- f. The federal awards tested as major programs were:
  - 1. 81.629760 SURF (Sanford Underground Research Facility) Operations Support
  - 2. 81.630223 SURF (Sanford Underground Research Facility) Ross Shaft Rehab
- h. The dollar threshold used to distinguish between Type A and Type B federal award programs was \$7,000,000 as determined for the State of South Dakota Single Audit for fiscal year 2017.
- i. The South Dakota Science and Technology Authority, as a component unit of the State of South Dakota, did not qualify as a low-risk auditee.

**Current Federal Audit Findings:**

There are no written current federal compliance audit findings to report.

**Current Other Audit Findings:**

There are no written current (other) audit findings to report.



427 SOUTH CHAPELLE  
C/O 500 EAST CAPITOL  
PIERRE SD 57501-5070  
(605) 773-3595

MARTIN L. GUINDON, CPA  
AUDITOR GENERAL

## INDEPENDENT AUDITOR'S REPORT

The Honorable Dennis Daugaard  
Governor of South Dakota

and

Board of Directors  
South Dakota Science and Technology Authority

### **Report on the Financial Statements**

We have audited the accompanying financial statements of the South Dakota Science and Technology Authority (Authority), a business-type activities component unit of the State of South Dakota, as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the Table of Contents.

### ***Management's Responsibility for the Financial Statements***

The Authority's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of June 30, 2017, and the changes in its financial position and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis (MD&A) on pages 8-15, the Schedule of Proportionate Share of the Net Pension Liability (Asset) on page 33, and the Schedule of Employer Contributions on page 34 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Supplementary Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The Schedule of Operating Expenses and the Schedule of Expenditures of Federal Awards, which is required by Title 2 U.S. *Code of Federal Regulations (CFR) Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) listed in the Table of Contents are presented for purposes of additional analysis and are not a required part of the basic financial statements. The information is the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

## **Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 25, 2017 on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.



Martin L. Guindon, CPA  
Auditor General

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS JUNE 30, 2017**

This section of the South Dakota Science and Technology Authority's (Authority) annual financial report presents management's discussion and analysis of the Authority's financial performance during the fiscal year ended June 30, 2017 (FY 2017). This analysis should be read in conjunction with the financial statements and notes to the financial statements.

The Authority's financial statements include the operations of funds that the Authority has established to achieve its goal of converting its acquired Homestake Mine property into an underground science and engineering laboratory. The property was donated to the Authority by Barrick Gold Corporation in May 2006.

The activity of the Authority is accounted for as a proprietary fund type. The Authority is a component unit of the State of South Dakota and its financial statements are included in the Comprehensive Annual Financial Report of the State of South Dakota.

Included in the financial statements presented is a current year comparison to prior year balance sheet summary, revenue and expense summary, and capital assets. Further reports reflect current year detailed statement of net position, statement of revenue, expense and changes in net position, cash flow and schedule of operating expenses, and schedule of expenditures of federal awards. Comparisons of current year to prior year are important to display increases and decreases in various elements of the financial reports for the Authority. Current year detailed reports provide significant detail for statement of net position, revenues, expenses and cash flows for the Authority.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) JUNE 30, 2017**

#### **FINANCIAL HIGHLIGHTS:**

- Total assets at year end decreased to \$110,994,820.
- Current Assets decreased by \$2,151,545, primarily due to the expenditure of funds from the cash accounts being held by the State Treasurer on behalf of the Authority. Accounts Receivable as of the June 30, 2017 statement is also lower due to receiving payments on various invoices earlier than usual.
- Capital Assets increased by \$117,873 net of depreciation expense. Page 12 details the major capital asset additions and deletions. Furthermore, page 23 summarizes the changes in capital assets by major categories. Notable increases include the purchase of the Ellison Hill Property which includes land, buildings, and infrastructure as well as additional increases to Improvements in Progress for the LUX/Zeplin facility upgrades. Deletions include various computer equipment that had reached end of life status.
- Net Pension Asset and Xenon Purchased are combined on our Statement of Net Position. Net Pension Asset decreased to zero. The State's retirement system (SDRS) is no longer fully funded (see Note 6 – page 25). The actuarially accrued liability of the fund is more than the assets of the fund. Therefore, for fiscal year 2017 we have a Net Pension Liability. GASB standards allow entities to use a pension measurement date up to one year prior to the entities reporting period. Therefore, the Authority is using a June 30, 2016 pension measurement date for our fiscal year end June 30, 2017 statements. Loans from the South Dakota Community Foundation, University of South Dakota Foundation, and South Dakota State University Foundation have enabled the Authority to purchase xenon to be used in the future LZ experiment. As of June 2017, \$5,040,356 of xenon has been purchased. In summary, the Net Pension Asset and Xenon Purchased has increased by \$1,275,265.
- Deferred Outflows of Resources is also related to our retirement plan with SDRS. The amounts recorded relate to our proportionate share of the differences between expected and actual experience in pension earnings along with the Authority's pension contributions made subsequent to June 30, 2016. The total Deferred Outflows of Resources equals \$4,174,730.
- Total liabilities at year end increased to \$9,434,801, primarily due to the additional liability created by the signing of additional loans with the University of South Dakota Foundation and the South Dakota State University Foundation for additional xenon purchases. \$1,000,000 was received from each foundation. These loans are eleven year, unsecured nonrecourse loans with 2.5% simple interest to be paid quarterly to the lender. The loans will be repaid at the end of the LZ experiment (estimated to be October 2026) from the sale proceeds of the xenon previously purchased. Net Pension Liability is recorded at \$1,698,193 for the Authority's share of the collective net pension liability. Last year's calculation showed the retirement system was 104% funded where this year it is only 96% funded.
- Deferred Inflows of Resources has been reduced to zero for fiscal year 2017. GASB 68 requires that the amount reported as deferred outflows and inflows as they relate to the net difference between the projected and actual earnings on pension plan investments should be netted for reporting purposes. The recorded amounts have been summarized with Deferred Outflows of Resources.
- Total restricted net position decreased to \$15,278,125, partially due to the expenditure of funds received from Mr. Denny Sanford. These funds were expended on the purchase of the Ellison Hill Property as authorized by the Sixth Amendment to the Homestake Gift Agreement. This additional surface property will provide storage and construction material laydown space for the Long-Baseline Neutrino Facility (LBNF) and the Deep Underground Neutrino Experiment (DUNE). Additionally, restricted net position decreased for funds related to pension benefits as well as experiment funding set aside for xenon procurement, the related interest payments for xenon procurement loans, and infrastructure upgrades.
- Unrestricted net position increased to \$5,676,524.
- Total net position at year end decreased to \$105,734,749.
- Charges for Services decreased slightly to \$150,969. Revenue from Homestake decreased due to a decrease in the amount of water being treated and discharged for Homestake.



## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) JUNE 30, 2017**

#### **FINANCIAL HIGHLIGHTS (Continued)**

- Operating Grants increased to \$25,690,909. The revenue received in this classification includes \$17,022,400 received from Fermi National Laboratory, \$8,326,020 from Lawrence Berkeley National Laboratory, and \$342,489 from the SD Governor's Office of Economic Development (GOED) and various smaller universities. As of fiscal year 2017 a larger portion of the Operating Grants funding was received from Fermi National Laboratory rather than Lawrence Berkeley National Laboratory as two contracts for operations support and the Ross Shaft Rehab were transferred to Fermi National Laboratory late in calendar year 2016.
- Capital Grants and Contributions decreased to zero (down \$2,282,782 from the prior year) due to the completion of the Sanford Lab Homestake Visitor Center and the Sanford Science Education Center project at Black Hills State University.
- Other Grants includes \$2,000,000 from GOED for xenon procurement and interest payment expenditures on loan agreements.
- Investment Earnings decreased to \$44,570 compared to \$337,182 in the previous year as average interest rates were lower than the previous year, less funds were being held on behalf of the Authority by the State Investment Council, and decreases to the fair value of securities held.
- Total Program Expenses for the Authority were \$28,755,946 which represents a decrease of 22.74% percent from the previous year. Last year's Program Expenses included the conveyance of the Sanford Lab Homestake Visitor Center to Homestake Visitor Center, Inc. as well as the Sanford Science Education Center project at Black Hills State University which resulted in \$7,344,210 of expense. Furthermore, last year's expenditures included an additional \$2,500,000 which was repurposed from the Indemnification Fund for the Authority to provide initial capital and pay liability coverage expenses associated with a newly formed Captive Insurance Company. This year's expenses include just \$31,355 for additional small items conveyed to the Homestake Visitor Center, Inc. Also included in Total Program Expenses are Operating Expenses which increased by \$1,475,128 to \$28,635,307. Of the total expenses in this category, the major expenses were personal services – 47.8 percent, contractual services – 35.3 percent, and supplies, materials, and other operating expenses – 8.93 percent. The majority of the increase in Operating Expenses is a result of transferring the Ross Rehab costs to a subcontract with LBNL (federal funds through the Department of Energy) as of January 2016. The fiscal year 2016 program expenses only included one half year of Ross Rehab expenses where fiscal year 2017 included a full year of expenses. Prior to January 2016, the costs were being covered by Sanford funds and State funds.
- Net position decreased by \$725,449 for fiscal year 2017.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)**  
**JUNE 30, 2017**

**FINANCIAL STATEMENT ELEMENTS:**

**NET POSITION**

	2017	2016	Dollar Change	Percent Change
Current Assets	\$ 20,967,962	\$ 23,119,507	\$ (2,151,545)	-9.31%
Capital Assets	84,986,502	84,868,629	117,873	0.14%
Net Pension Asset and Xenon Purchased	5,040,356	3,765,091	1,275,265	33.87%
<b>Total Assets</b>	<b>110,994,820</b>	<b>111,753,227</b>	<b>(758,407)</b>	<b>-0.68%</b>
Pension Related Deferred Outflows	4,174,730	4,129,426	45,304	1.10%
Net Pension Liability	1,698,193	-	1,698,193	100.00%
Long-Term Liabilities Outstanding	4,512,117	2,602,661	1,909,456	73.37%
Other Liabilities	3,224,491	3,634,992	(410,501)	-11.29%
<b>Total Liabilities</b>	<b>9,434,801</b>	<b>6,237,653</b>	<b>3,197,148</b>	<b>51.26%</b>
Pension Related Deferred Inflows	-	3,184,802	(3,184,802)	-100.00%
<b>Net Position:</b>				
Net Investment in Capital Assets	84,780,100	84,524,475	255,625	0.30%
Restricted	15,278,125	18,208,604	(2,930,479)	-16.09%
Unrestricted	5,676,524	3,727,119	1,949,405	52.30%
<b>Total Net Position</b>	<b>\$ 105,734,749</b>	<b>\$ 106,460,198</b>	<b>\$ (725,449)</b>	<b>-0.68%</b>

**CHANGE IN NET POSITION**

	2017	2016	Dollar Change	Percent Change
<b>Revenues</b>				
Program Revenues:				
Charges for Services	\$ 150,969	\$ 247,502	\$ (96,533)	-39.00%
Operating Grants	25,690,909	24,889,116	801,793	3.22%
Miscellaneous	144,049	72,291	71,758	99.26%
Capital Grants and Contributions	-	2,282,782	(2,282,782)	-100.00%
Other Grant Revenue	2,000,000	2,000,000	-	0.00%
General Revenues:				
Investment Earnings	44,570	337,182	(292,612)	-86.78%
<b>Total Revenue</b>	<b>28,030,497</b>	<b>29,828,873</b>	<b>(1,798,376)</b>	<b>-6.03%</b>
Program Expenses:				
Science and Technology Authority	28,755,946	37,220,226	(8,464,280)	-22.74%
<b>Total Expense</b>	<b>28,755,946</b>	<b>37,220,226</b>	<b>(8,464,280)</b>	<b>-22.74%</b>
Change in Net Position	(725,449)	(7,391,353)	6,665,905	-90.19%
Net Position-Beginning	106,460,198	113,851,551	(7,391,354)	-6.49%
<b>Net Position-Ending</b>	<b>\$ 105,734,749</b>	<b>\$ 106,460,198</b>	<b>\$ (725,449)</b>	<b>-0.68%</b>

By June 30, 2017, the Authority had invested \$84,986,502 in a broad range of capital assets, including computer equipment, land, buildings, improvements to infrastructure and the underground, and various machinery and equipment. \$20,551,152 of this \$84,986,502 (approximately 24% of this total value) was donated by Barrick Gold. This amount represents a net decrease (including additions and deductions) of \$117,873, or .14 percent, over the last year.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)**  
**JUNE 30, 2017**

**CAPITAL ASSETS (Net of Depreciation)**

	<b>2017</b>	<b>2016</b>	<b>Change</b>
Improvements	\$ 31,043,734	\$ 31,977,971	\$ (934,237)
Underground	17,936,956	17,767,956	169,000
Buildings	5,751,477	5,615,700	135,777
Computer Equipment	124,464	76,686	47,778
Equipment	6,714,078	7,056,723	(342,645)
Construction in Progress	19,797,453	19,258,934	538,519
Land	1,814,136	1,579,298	234,838
Infrastructure	1,665,601	1,408,819	256,782
Furniture	29,962	34,952	(4,990)
Archive Material	70,000	70,000	-
Auto	38,641	21,590	17,051
<b>Total Capital Assets</b>	<b>\$ 84,986,502</b>	<b>\$ 84,868,629</b>	<b>\$ 117,873</b>

This year's major capital asset additions and deletions included:

*Purchased Capital Assets:*

Ellison Hill Property	\$ 234,838
Ellison Hill Buildings	282,000
Chevy 2011 3500 Stake Bed Truck	22,657
Snow Plow	6,594
Milliken Plug Valves	15,777
McCrometer MagFlo Meter	6,980
Radon Removal System	421,974
Atlas Copco Air Compressor and Air Dryer	33,725
RO Water System	49,328
FCU-1 Fan	7,557
Computer Equipment - Router, Backup Servers, Firewalls	79,473

*Infrastructure Additions:*

Ellison Hill Gravel and Paved Road	38,951
Water Inflow Phase I and Pipe Fusion	261,669

*Improvements (Current Year Additions):*

Davis Campus Insulation	45,637
Yates Tunnel Improvements	169,000

*Improvements in Progress (Current Year Additions):*

CASPAR Experiment Development	76,664
Ellison Hill Building Asbestos Assess./Abatement	26,379
LUX/Zeplin Facility Upgrades	823,146

*Computer Equipment (Current Year Deletions)*

Router, Backup Servers, Firewalls	(106,106)
-----------------------------------	-----------

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**MANAGEMENT’S DISCUSSION AND ANALYSIS (CONTINUED)**

**JUNE 30, 2017**

**LONG-TERM DEBT**

At the year-end, the Authority had \$4,512,117 in other long-term obligations. This is an increase of 73.37 percent as shown below.

	<b>2017</b>	<b>2016</b>	<b>Total Dollar Change</b>	<b>Total Percentage Change</b>
Compensated Absences	\$ 495,921	\$ 443,101	\$ 52,820	11.92%
Capital Acquisition Lease	16,196	159,560	(143,364)	-89.85%
Xenon Notes Payable	4,000,000	2,000,000	2,000,000	100.00%
<b>Total Long-Term Debt</b>	<b>\$ 4,512,117</b>	<b>\$ 2,602,661</b>	<b>\$ 1,909,456</b>	<b>73.37%</b>

(1) The Authority is liable for the accrued vacation leave payable to all full-time employees. In addition, the Authority is liable for a portion of the earned sick leave of employees who have been employed for seven consecutive years. The \$52,820 increase in compensated absences is due to an increase in the corresponding amount of leave accumulated and outstanding at the end of the year for various employees. Included in the increase is the xenon notes payable to South Dakota Community Foundation, University of South Dakota Foundation, and South Dakota State University Foundation. Note (4) Long-Term Debt in the Notes to Financial Statements on page 24 details compensated absences, capital lease and the xenon note payable.

**ECONOMIC FACTORS**

- A report released from the Particle Physics Project Prioritization Panel (P5) in May 2014, outlined the 10-year strategic plan for high-energy physics in the United States. The report provides strong support for science programs envisioned for the Sanford Underground Research Facility (SURF) including research into neutrinos and dark matter, both of which are being researched at Sanford Lab. This panel formally advises both the DOE Office of Science and the National Science Foundation (NSF) on support for physics. We expect this report to play a key role in the federal government funding process for years to come. The Authority is better positioned to receive continued funding for Operations in the future.
- The Authority’s Board of Directors approved a capital budget for fiscal year 2017 of \$6,872,095 towards the experiment development for the Compact Accelerator System for Performing Astrophysical Research (CASPAR), as well as xenon procurement for the LZ experiment and upgrades to surface and underground facilities for the future G2-LZ (Generation 2 LUX-Zeplin) experiment. A contract with Dean Kurtz Construction was signed in August 2016 for \$789,466 for upgrades to the surface science lab and the construction of a new radon removal building. With additional change orders, the contract amount was increased to \$843,654. Both projects were substantially completed in fiscal year 2017. Additional projects included the purchase of the Ellison Hill property and Ellison Hill building asbestos abatement. Actual expenditures for the year totaled \$5,478,779. Actual expenses were lower than budgeted as not all projects are complete. Funding for the balance of these projects had been designated primarily from the Sanford funds including a portion of Gift No. 2. Funding for xenon procurement and the upgrades for the LZ experiment was secured with the signing of Letter Agreement #1586 in August 2015 with the Governor’s Office of Economic Development (GOED) and through separate funding from Foundations. The total funding of \$6,000,000 has been received from GOED as well as \$4,000,000 from the Foundations. The final \$2,000,000 from Foundations will be received in 2018. Additional details can be found on page 15.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)**

**JUNE 30, 2017**

#### **ECONOMIC FACTORS (Continued)**

- The operations contract with Lawrence Berkeley National Laboratory (LBNL) has transitioned to Fermi National Accelerator Laboratory (FNAL) as of October, 2016. With various modifications to Subcontract No. 629760 we currently have a budget of \$14,748,459 to manage and operate the facility through September 30, 2017. Actual expenditures were \$12,577,323 through August 2017. Negotiations are underway to extend this contract through June 2018 with additional funding until we are able to negotiate a long-term contract with (FNAL).
- Further funding was received in fiscal year 2017 through LBNL in support of various small projects including the LUX (Large Underground Xenon) experiment. This award reimbursed the Authority for expenses incurred in support of the LUX for various materials and supplies as well as a percentage of the salaries of the Design Team members for their project management skills essential to the work being performed. Other small subcontracts supplied further funding to the Authority. Included was support for the LZ (LUX-Zeplin) investigations. Additional funding was received through LBNL for the Ross Shaft rehabilitation project as well as another small drilling project labeled KISMET. As of mid-December, 2016 the Ross Shaft rehabilitation project transitioned to Fermi National Accelerator Laboratory (FNAL) with the signing of Subcontract No. 630223. This funding will continue with FNAL until the project is complete.
- In late 2012, the DOE approved the Long Baseline Neutrino Experiment (LBNE) to proceed with preliminary designs to construct a large detector at SURF. In October 2014, the United States along with international partners agreed that the Sanford Lab was to remain the host for the LBNE related detectors. After further meetings, the LBNE collaboration officially dissolved and transferred all responsibilities to a new collaboration referred to as the Long Baseline Neutrino Facility (LBNF) consisting of United States and International support. The LBNF and the associated Deep Underground Neutrino Experiment (DUNE) will send neutrinos through the earth from Fermilab in Batavia, Illinois to SURF in Lead, SD. More recent developments (September 2016) involve the DOE formally approving plans for construction of the first two large underground caverns at SURF for DUNE. The first step of installing the systems to transport hundreds of thousands of tons of rock to the surface will begin in 2017. The excavation for the three caverns to house the neutrino detectors and related utilities is expected to begin in the fall of 2018. Contracts have been executed with Fermi National Accelerator Laboratory (FNAL) for these efforts. Funds were received for professional engineering management services for design and construction. Other contracts added support for Phase 2 - Geotechnical Exploration for LBNE. Additional support was received for Excavation Preliminary and Final Design, Building/Site Infrastructure, as well as funding for a tramway excavation, pipe conveyor support, and surface rock handling through final design. DOE support for professional engineering management services continues into fiscal year 2017 for the LBNF project but the large Excavation – Final Design and Building/Site Infrastructure contracts will be held directly by FNAL with the design firm. Thus, these design contracts have come to an end for the Authority. In late September 2017, the United States entered into a historic bilateral agreement with the United Kingdom establishing a foundation for enhanced research partnerships to further world-class science. The United Kingdom has committed \$88 million to LBNF and DUNE.
- Additional funding was received during the fiscal year from various institutions including Oak Ridge National Laboratory, Northwestern University, South Dakota Schools of Mines & Technology, and Black Hills State University. Funds were received at SURF to support the Majorana experiment located at the 4850-foot level Davis Campus, as well as various other experiments on the underground levels. Support continues in fiscal year 2018 from these various universities except Northwestern University that has completed their project.
- A Memorandum of Understanding (MOU) was signed in November 2014 between the Authority and a commercial organization – Xilinx, Inc. to establish an experiment located near the Davis Campus. Their testing measures failure rates and modes in electronic chips. We are charging them for lab space, experiment access fees, and SURF scientific support. This agreement will continue into fiscal year 2018.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **MANAGEMENT'S DISCUSSION AND ANALYSIS (CONCLUDED) JUNE 30, 2017**

#### **ECONOMIC FACTORS (Continued)**

- The Authority's fiscal year 2018 capital budget provides for spending \$4,677,160. Projects include concluding the CASPAR experiment development, finalizing the Authority's support for the surface and underground upgrades for the future G2-LZ (Generation 2 LUX-Zeplin) experiment that will be located in the Davis Campus, procurement of xenon for the LZ experiment, as well as asbestos abatement for the newly acquired Ellison Hill property. Funding for the LZ projects will be facilitated through a letter agreement with the Governor's Office of Economic Development (GOED) for \$6,000,000 along with loan agreements for \$6,000,000 from state foundations. Agreements have been signed with the South Dakota Community Foundation, South Dakota State University Foundation, and University of South Dakota Foundation for \$2,000,000 each to be used towards the purchase of xenon. The Authority's Board of Directors also approved a budget of \$537,922 in favor of Authority supported activities.
- A Letter Agreement dated February 24, 2014 between the Authority and Black Hills State University (BHSU) provides up to \$300,000 per year for three years from the Authority to BHSU to administer the Sanford Science Education Center. Matching funds of \$150,000 per year by BHSU is documented. An amended agreement dated June 6, 2017 commits an additional \$275,000 toward education and outreach priorities for the period July 2017 – June 2018. Funding for this agreement originated from a Letter Agreement #1524 between the SD Governor's Office of Economic Development (GOED) and the Authority. The full period of performance extends from June 2014 through May 2017. The first \$300,000 from the Governor's office was received in September 2014 and was extended to BHSU on a reimbursement schedule. Years two and three funding of \$300,000 and \$250,000 were received from GOED. The balance of year three funding of \$50,000 was received in June of 2017. Additional support of \$125,000 per year for four years for education programs was received from Great Plains Education Foundation. Funding will be received upon sending documented support of achievements.
- The Authority is compliant with all legal and environmental regulations.

#### **CONTACTING THE AUTHORITY'S FINANCIAL MANAGEMENT**

This financial report is designed to provide our citizens, taxpayers, customers, and investors and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have any questions about this report or need additional information, contact the South Dakota Science and Technology Authority, 630 East Summit Street, Lead, SD 57754.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**STATEMENT OF NET POSITION  
JUNE 30, 2017**

**ASSETS**

**Current Assets**

Cash in Local Bank and Petty Cash	\$ 1,826,821
Cash on Deposit with State Treasurer	14,187,504
Accounts Receivable	1,878,813
Interest Receivable	46,464
Prepaid Expenses	587,902
Inventory of Supplies & Warehouse	2,440,458
<b>Total Current Assets</b>	<b>20,967,962</b>

**Noncurrent Assets**

Xenon Purchased	5,040,356
Land	1,814,136
Underground	17,936,956
Improvements in Progress	19,797,453
Buildings, Machinery, Equipment and Infrastructure (Net) (Note 3)	45,437,957
<b>Total Noncurrent Assets</b>	<b>90,026,858</b>

**TOTAL ASSETS** **110,994,820**

**Deferred Outflows of Resources**

Pension Related Deferred Outflows	4,174,730
-----------------------------------	-----------

**LIABILITIES**

**Current Liabilities**

Accounts Payable	2,066,947
Accrued Wages and Benefits	471,416
Accrued Leave, Benefits, and Capital Acquisition Lease (Note 4)	686,128
<b>Total Current Liabilities</b>	<b>3,224,491</b>

**Long-Term Liabilities**

Net Pension Liability	1,698,193
Accrued Leave, Benefits, and Capital Acquisition Lease Net of Current Portion (Note 4)	512,117
Long-Term Xenon Notes Payable (Note 4)	4,000,000
<b>Total Long-Term Liabilities</b>	<b>6,210,310</b>

**TOTAL LIABILITIES** **9,434,801**

**NET POSITION**

Invested in Capital Assets	84,780,100
Restricted for:	
Mine Closure	1,411,988
Experiments	3,426,222
Indemnification	7,500,000
Sanford Center for Science Education	463,378
Pension	2,476,537
Unrestricted Net Position	5,676,524

**TOTAL NET POSITION** **\$ 105,734,749**

The accompanying notes are an integral part of this statement.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION  
FOR THE YEAR ENDED JUNE 30, 2017**

<b>Operating Revenue</b>	
Charges for Goods and Services	\$ 150,969
Operating Grants	25,690,909
Miscellaneous	144,049
<b>Total Operating Revenue</b>	<b>25,985,927</b>
<b>Operating Expenses</b>	
Personal Services	13,693,652
Travel	182,579
Contractual Services	10,098,945
Supplies, Materials and Other Operating Expenses	2,564,493
Amortization Expense	137,752
Depreciation Expense	1,957,886
<b>Total Operating Expenses</b>	<b>28,635,307</b>
<b>Operating Loss</b>	<b>(2,649,380)</b>
<b>Nonoperating Revenues/Expenses</b>	
Grant Revenue	2,000,000
Interest Revenue	44,570
Other Expense	(120,639)
<b>Total Nonoperating Revenues/Expenses</b>	<b>1,923,931</b>
<b>Change in Net Position</b>	<b>(725,449)</b>
<b>Net Position -- Beginning of Year</b>	<b>106,460,198</b>
<b>Net Position -- End of Year</b>	<b>\$ 105,734,749</b>

The accompanying notes are an integral part of this statement.



**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**STATEMENT OF CASH FLOWS  
FOR THE YEAR ENDED JUNE 30, 2017**

**Cash Flows from Operating Activities:**

Other Operating Cash Receipts	\$ 323,274
Cash Receipts from Operating Grants	27,583,372
Cash Payments to Employees for Services	(12,958,628)
Cash Payments to Suppliers of Goods and Services	(13,714,519)
<b>Net Cash Provided by Operating Activities</b>	<b>1,233,499</b>

**Cash Flows from Noncapital Financing Activities:**

Grant Revenue	2,000,000
Proceeds from Xenon Notes Payable	2,000,000
Xenon Purchases	(2,630,135)
Interest/Insurance Paid on Xenon	(59,282)
Grants & Donations Paid	(31,355)
<b>Net Cash Provided by Noncapital Financing Activities</b>	<b>1,279,228</b>

**Cash Flows from Capital and Related Financing Activities:**

Purchase of Capital Assets	(2,783,767)
Principal Paid on Capital Debt	(137,752)
Interest Paid on Capital Debt	(8,498)
<b>Net Cash Used in Capital and Related Financing Activities</b>	<b>(2,930,017)</b>

**Cash Flows from Investing Activities:**

Interest Earnings	38,354
<b>Net Cash Provided by Investing Activities</b>	<b>38,354</b>

**Net decrease in Cash and Cash Equivalents** **(378,936)**

Cash and Cash Equivalents at Beginning of Year 16,393,262

**Cash and Cash Equivalents at End of Year** **\$ 16,014,326**

**Reconciliation of Operating Loss to Net Cash Provided by Operating Activities:**

Operating Loss	\$ (2,649,380)
<i>Adjustments to Reconcile Operating Loss to Net Cash Provided by Operating Activities:</i>	
Depreciation & Amortization Expense	2,095,638
Change in Assets and Liabilities:	
Receivables	1,920,719
Prepaid Expenses	(152,176)
Inventory of Supplies	2,447
Net Pension Asset	2,158,428
Decrease(Increase) in Deferred Outflow of Resources - Pension	(45,304)
Increase (Decrease) Deferred Inflow of Resources - Pension	(3,184,802)
Accounts and Other Payables	(718,773)
Net Pension Liability	1,698,193
Accrued Wages Payable	2,868
Accrued Leave Payable	105,641
<b>Net Cash Provided by Operating Activities</b>	<b>\$ 1,233,499</b>

Continued on next page.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**STATEMENT OF CASH FLOWS (CONTINUED)  
FOR THE YEAR ENDED JUNE 30, 2017**

**Cash and Cash Equivalents:**

Cash in Local Bank	\$ 1,826,771
Petty Cash	50
Cash with State Treasurer	14,187,504
<b>Total Cash and Cash Equivalents</b>	<b>\$ 16,014,325</b>

**Non-Cash Capital and Related Financing Activities:**

Loss on Disposal of Assets	\$ 1,169
----------------------------	----------

The accompanying notes are an integral part of this statement.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS JUNE 30, 2017**

#### **(1) Summary of Significant Accounting Policies**

##### **a. Reporting Entity**

The South Dakota Science and Technology Authority (Authority) was created and organized by Chapter 1-16H of the South Dakota Codified Laws. The purposes of the Authority are to foster and facilitate scientific and technology investigation, experimentation, and development by creating a mechanism through which laboratory, experimental and development facilities may be acquired, developed, constructed, maintained, operated, and decommissioned. The initial focus of the Authority is to support the transfer of the Homestake Gold Mine in Lead, South Dakota for development by the research community to become the world's premier Underground Science and Engineering Laboratory; more specifically, the Sanford Underground Research Facility (SURF). Additional focus is maintained by the Authority for an education and outreach program detailing the progress.

The Authority is a business type component unit of the State of South Dakota (the State). As such, the accompanying financial statements are included in the Comprehensive Annual Financial Report of the State of South Dakota.

##### **b. Fund Accounting**

The Authority Fund is accounted for as an enterprise fund. Enterprise funds are used to account for operations (a) that are financed and operated in a manner similar to private business enterprises, where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.

##### **c. Basis of Accounting**

The Authority Fund follows the accrual basis of accounting. Revenues are recognized when they are earned, and expenses are recognized when they are incurred.

##### **d. Inventory of Supplies**

Inventory of supplies consists primarily of expendable equipment/supplies, donated and purchased, not yet in service. Donated inventory of supplies are valued at their estimated fair value on date of donation. Purchased equipment values are reported at cost. Reported cost values include ancillary charges necessary to place the asset into its intended location and condition for use at a later date.

##### **e. Capital Assets**

Capital assets include land, buildings, machinery and equipment, and all other tangible or intangible assets that are used in operations and that have initial useful lives extending beyond a single reporting period. Infrastructure assets are long-lived capital assets that normally are stationary in nature and normally can be preserved for a significantly greater number of years than most capital assets.

Capital assets are recorded at historical cost. Donated capital assets are valued at their estimated fair value on the date donated. Reported cost values include ancillary charges necessary to place the asset into its intended location and condition for use. Subsequent to initial capitalization, improvements or betterments that are significant and which extend the useful life of a capital asset are also capitalized.

## SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

### NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2017

#### (1) Summary of Significant Accounting Policies (Continued)

##### e. Capital Assets (Continued)

Depreciation of all exhaustible capital assets is recorded as an expense in the Statement of Revenues, Expenses, and Changes in Net Position, with net capital assets reflected in the Statement of Net Position. Accumulated depreciation is reported on the Statement of Net Position.

Capitalization thresholds (the dollar values above which asset acquisitions are added to the capital asset accounts), depreciation methods, and estimated useful lives of capital assets reported in the Authority's financial statements are as follows:

	Capitalization Threshold	Depreciation Method	Estimated Useful Life
Land and Land Rights	All Land	N/A	N/A
Improvements	\$ 5,000	Straight-line	10-50 yrs.
Infrastructure	5,000	Straight-line	25-50 yrs.
Buildings	5,000	Straight-line	25-50 yrs.
Automobiles, Furniture, Machinery and Equipment	5,000	Straight-line	5-75 yrs.

##### f. Revenue and Expense Classifications

In the Statement of Revenues, Expenses, and Changes in Net Position, revenues and expenses are classified in a manner consistent with how they are classified in the Statement of Cash Flows. That is, transactions for which related cash flows are reported as capital and related financing activities, non-capital financing activities, or investing activities are not reported as components of operating revenue or expenses. The Authority's proprietary fund distinguishes between operating and non-operating revenues and expenses. Operating revenues and expenses of the Authority consist of reimbursement of the costs of operations from Homestake Mining Company and other entities, and the costs of providing those services, including depreciation. All other revenues and expenses are reported as non-operating.

##### g. Cash and Cash Equivalents

Cash includes cash on hand, demand deposits, and participating interest in the State's internal investment pool held by the State Treasurer. The amount held in the State's internal investment pool is reported at fair value. The Authority essentially has access to the entire amount of their cash resources on demand. Accordingly, equity in the cash management pool is considered to be cash and cash equivalents for the purpose of the Statement of Cash Flows.

##### h. Equity Classifications

Equity is classified as net position and is displayed in three components:

1. Net investment in capital assets, consists of capital assets, including restricted capital assets, net of accumulated depreciation (if applicable) and reduced by the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvements of those assets.
2. Restricted net position, consists of net position with constraints placed on their use either by (a) external groups such as creditors, grantors, contributors, or laws and regulations of other governments; or (b) law through constitutional provisions or enabling legislation.
3. Unrestricted net position, all other net position that do not meet the definition of "restricted" or "net investment in capital assets."

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2017**

#### **(1) Summary of Significant Accounting Policies (Concluded)**

##### **i. Application of Net Position**

It is the Authority's policy to first use restricted net position, prior to the use of unrestricted net position, when an expense is incurred for purposes for which both restricted and unrestricted net position are available.

##### **j. Accrued Leave**

Compensated absences consist of vacation and sick leave earned. The vacation leave is earned by full-time employees at the rate of 4.62 hours per pay period, increasing to 6.16 hours per pay period after 15 years of service. The vacation leave may accumulate only to a maximum of twice the annual accrual. Upon retirement or resignation, only full-time employees with 180 days of continuous service will be paid for accumulated vacation leave. Sick leave is earned at the rate of 4.32 hours per pay period. Upon termination, some employees are entitled to receive compensation for a portion of their sick leave balance. Those with seven years of service or more will receive compensation at the rate of 25 percent of their balance up to a maximum of 480 hours.

##### **k. Pensions**

For purposes of measuring the net pension liability (asset), deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense (revenue), information about the fiduciary net position of the South Dakota Retirement System (SDRS) and additions to/deletions from SDRS's fiduciary net position have been determined on the same basis as they are reported by SDRS. The Authorities contributions and net pension liability (asset) are recognized on an accrual basis of accounting.

#### **(2) Deposits and Investments**

##### **Deposits**

The majority of the Authority's cash is on deposit with the State Treasurer. Such funds are invested through the South Dakota Investment Council. Management of the State's internal investment pool is the statutory responsibility of the South Dakota Investment Council (SDIC). The investment policy and required risk disclosures for the State's internal investment pool are presented in the audit report of the South Dakota Investment Council, which can be obtained by contacting the Department of Legislative Audit, 427 South Chapelle, c/o 500 East Capitol, Pierre, South Dakota 57501.

Custodial credit risk is the risk that in the event of a bank failure, the Authority's deposits may not be returned to it. The Authority does not have a deposit policy for custodial credit risk. None of the Authority's deposits were exposed to custodial credit risk.

##### **Investments**

In general, SDCL 1-16H-18 permits funds to be invested in (a) direct obligations of, or obligations the principal of the interest on which are fully guaranteed or insured by, the United States of America; or (b) obligations of any solvent insurance company or other corporation or business entity if rated in the two highest classifications established by a standard rating service or insurance companies or a nationally recognized rating agency; or (c) short term discount obligations of the Federal National Mortgage Association; or (d) obligations of any state of the United States or any political subdivision, public instrumentality, or public authority of any state of the United States, which obligations are not callable before the principal is to be paid, are fully secured as to both sufficiency and timely payment by, and payable solely from, obligations described in (a). The Authority did not have any investments as of June 30, 2017.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)**  
**JUNE 30, 2017**

**(3) Changes in Capital Assets**

A summary of changes in capital assets for the year ended June 30, 2017 is as follows:

	Balance June 30, 2016	Reclassified*	Increases	Decreases	Balance June 30, 2017
<b>Business-Type Activities:</b>					
Capital Assets, not Being Depreciated:					
Land	\$ 1,579,298	\$ -	\$ 234,838	\$ -	\$ 1,814,136
Underground	17,767,956	-	169,000	-	17,936,956
Archive Materials	70,000	-	-	-	70,000
Construction Work in Progress (Note 8)	19,258,934	(387,670)	926,189	-	19,797,453
<b>Total Capital Assets, not Being Depreciated</b>	<b>38,676,188</b>	<b>(387,670)</b>	<b>1,330,027</b>	<b>-</b>	<b>39,618,545</b>
Capital Assets, Being Depreciated:					
Equipment Under Capital Lease	883,945	-	-	-	883,945
Automobiles	86,305	-	22,657	-	108,962
Buildings	7,223,086	-	282,000	-	7,505,086
Furniture	74,212	-	-	-	74,212
Computer Equipment	461,417	-	79,473	106,106	434,784
Improvements	37,006,542	-	45,637	-	37,052,179
Infrastructure	1,658,242	209,828	90,792	-	1,958,862
Machinery and Equipment	10,368,447	177,842	364,093	10,817	10,899,565
<b>Total Capital Assets, Being Depreciated</b>	<b>57,762,196</b>	<b>387,670</b>	<b>884,652</b>	<b>116,923</b>	<b>58,917,595</b>
<b>Total Capital Assets, Before Depreciation</b>	<b>96,438,384</b>	<b>-</b>	<b>2,214,679</b>	<b>116,923</b>	<b>98,536,140</b>
Less Accumulated Depreciation:					
Equipment Under Capital Lease	539,791	-	137,752	-	677,543
Automobiles	64,715	-	5,606	-	70,321
Buildings	1,607,386	-	146,223	-	1,753,609
Computer Equipment	384,731	-	31,695	106,106	310,320
Furniture	39,260	-	4,990	-	44,250
Improvements	5,028,571	-	979,874	-	6,008,445
Infrastructure	249,423	-	43,838	-	293,261
Machinery and Equipment	3,655,878	-	745,659	9,648	4,391,889
<b>Total Accumulated Depreciation</b>	<b>11,569,755</b>	<b>-</b>	<b>2,095,637</b>	<b>115,754</b>	<b>13,549,638</b>
<b>Capital Assets, Net</b>	<b>\$ 84,868,629</b>	<b>\$ -</b>	<b>\$ 119,042</b>	<b>\$ 1,169</b>	<b>\$ 84,986,502</b>

\*Reclassifications are due to the Authority performing analysis of assets that were previously grouped in construction work in progress. Various items were transferred to equipment and infrastructure and placed in service as of June 30, 2017.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)**  
**JUNE 30, 2017**

**(4) Long-Term Debt**

A summary of changes in long-term debt follows:

	Beginning Balance	Additions	Deletions	Ending Balance	Due Within One Year
Accrued Compensated Absences	\$ 886,202	\$ 635,894	\$ 530,253	\$ 991,843	\$ 495,922
Xenon Notes Payable	2,000,000	2,000,000	-	4,000,000	-
Capital Acquisition Lease	344,154	-	137,752	206,402	190,206
	<u>\$ 3,230,356</u>	<u>\$ 2,635,894</u>	<u>\$ 668,005</u>	<u>\$ 5,198,245</u>	<u>\$ 686,128</u>

*Xenon Notes Payable*

Loan Agreements with S.D. Community Foundation (SDCF), S.D. State University Foundation (SDSUF), and University of S.D. Foundation (USDF) to purchase xenon. The loans are 11 year, unsecured non recourse loans with 2.5% simple interest paid quarterly. The SDCF note is due on October 1, 2026. The SDSUF and USDF notes are due December 1, 2026. Also see Note 8.

\$ 4,000,000

*Capital Acquisition Lease*

The Authority leases a deep level pump system from AmWest, Inc. - Hydro Resources. The lease is due in monthly installments of \$35,000 per month tentatively through July 31, 2018 . The Interest Rate is 4%. Also see Note 8.

\$ 206,402

This lease meets the criteria to be called a capital lease; however, since the payments on this lease are funded under the Department of Energy contract through Lawrence Berkeley National Laboratory (LBNL), title will actually vest with LBNL rather than with the Authority. Because this meets the definition of a capital lease, the Authority has recorded the related asset and liability. The asset is being fully depreciated over the term of the lease and will be removed from the books at the end of the lease.

The annual requirements to amortize long-term debt outstanding as of June 30, 2017, are as follows:

	Capital Acquisition Lease		Xenon Notes Payable		Totals	
	Interest	Principal	Interest	Principal	Interest	Principal
2018	\$ 4,794	\$ 190,206	\$ 100,000	\$ -	\$ 104,794	\$ 190,206
2019	54	16,196	100,000	-	100,054	16,196
2020	-	-	100,000	-	100,000	-
2021	-	-	100,000	-	100,000	-
2022	-	-	100,000	-	100,000	-
2023-2027	-	-	437,500	4,000,000	437,500	4,000,000
Total	<u>\$ 4,848</u>	<u>\$ 206,402</u>	<u>\$ 937,500</u>	<u>\$ 4,000,000</u>	<u>\$ 942,348</u>	<u>\$ 4,206,402</u>

Total cost and accumulated amortization for the capital lease is as follows:

Gross amount of assets under capital lease	\$ 883,945
Accumulated amortization	<u>677,543</u>
	<u>\$ 206,402</u>

The purchase price at the commencement of the financing (capital acquisition) lease was:

Principal	\$ 883,945
Interest	<u>91,055</u>
Total	<u>\$ 975,000</u>

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)  
JUNE 30, 2017**

**(5) Xenon Purchased**

Xenon purchased is valued at a cost per liter with additional freight, customs, and analysis charges. Total xenon purchased to date is \$5,040,356 as shown by the detail below.

<u>Fiscal Year</u>	<u># of Liters</u>	<u>Total Cost</u>	<u>Average Cost/Liter</u>
2014	20,000	\$ 332,855	\$16.64/liter
2016	200,000	1,273,808	6.37/liter
2017	600,295	3,433,693	5.72/liter
<b>Total Purchased</b>	<b>820,295</b>	<b>\$ 5,040,356</b>	<b>\$ 6.14/liter</b>

**(6) Retirement/Pension Plan**

**Plan Information:**

All employees, working more than 20 hours per week during the year, participate in the South Dakota Retirement System (SDRS), a cost sharing, multiple employer defined benefit pension plan administered by SDRS to provide retirement benefits for employees of the State of South Dakota and its political subdivisions. The SDRS provides retirement, disability, and survivors' benefits. The right to receive retirement benefits vests after three years of credited service. Authority for establishing, administering and amending plan provisions are found in SDCL 3-12. The SDRS issues a publicly available financial report that includes financial statements and required supplementary information. That report may be obtained at <http://www.sdrs.sd.gov/publications/> or by writing to the SDRS, P.O. Box 1098, Pierre, SD 57501-1098 or by calling (605) 773-3731.

**Benefits Provided:**

SDRS has three different classes of employees, Class A, Class B public safety and Class B judicial. Class A retirement benefits are determined as 1.7 percent prior to 2008 and 1.55 percent thereafter of the employee's final 3-year average compensation times the employee's years of service. Employees with 3 years of service are eligible to retire at age 55. Class B public safety benefits are determined as 2.4 percent for service prior to 2008 and 2.0 percent thereafter of employee final average compensation. Class B judicial benefits are determined as 3.733 percent for service prior to 2008 and 3.333 percent thereafter of employee final average compensation. All Class B employees with 3 years of service are eligible to retire at age 45. Employees are eligible for service-related disability benefits regardless of length of service. Three years of service is required for nonservice-related disability eligibility. Disability benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. Death benefits are a percent of the employee's final average salary.

The annual increase in the amount of the SDRS benefits payable each July 1<sup>st</sup> is indexed to the consumer price index (CPI) based on SDRS funded status:

- If the SDRS market value funded ratio is 100% or more – 3.1% COLA
- If the SDRS market value funded ratio is 80.0% to 99.9%, index with the CPI
  - 90.0% to 99.9% funded – 2.1% minimum and 2.8% maximum COLA
  - 80.0% to 90.0% funded – 2.1% minimum and 2.4% maximum COLA
- If the SDRS market value funded ratio is less than 80% - 2.1%COLA

All benefits except those depending on the Member's Accumulated Contributions are annually increased by the Cost-of-Living Adjustment.

**Contributions:**

Employees are required by state statute to contribute 6 percent of their salary to the plan. State statute also requires the employer to contribute an amount equal to the employee's contribution. State statute also requires the employer to make an additional contribution in the amount of 6.2 percent for any compensation exceeding the maximum taxable amount for social security. The Authority's contributions to the SDRS for the fiscal years ended June 30, 2017, 2016 and 2015 was \$595,112, \$573,626, and \$557,420, respectively, equal to the required contributions each year.



**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)  
JUNE 30, 2017**

**(6) Retirement/Pension Plan (Continued)**

**Pension Liabilities (Assets), Pension Expense (Revenue), and Deferred Outflows of Resources and Deferred Inflows of Resources to Pensions:**

At June 30, 2016, SDRS is 96.89% funded and accordingly has a net pension liability. The proportionate shares for the Authority of the components of the net pension liability of South Dakota Retirement System, as of June 30, 2016 are as follows:

Proportionate share of pension liability	\$54,553,152
Less Proportionate share of net pension restricted for pension benefits	52,854,959
	<hr/>
Proportionate share of net pension liability (asset)	\$ 1,698,193
	<hr/> <hr/>

At June 30 2017, the Authority reported a liability (asset) of \$1,698,193 for its proportionate share of the net pension liability (asset). The net pension liability (asset) was measured as of June 30, 2016, and the total pension liability (asset) used to calculate the net pension asset was based on a projection of the Authority's share of contributions to the pension plan relative to the contributions of all participating entities. At June 30, 2016, the Authority's proportion was .50273600% which is a decrease of .0061729% from its proportion measured as of June 30, 2015.

For the year ended June 30, 2017, the Authority recognized pension expense of \$626,515. At June 30, 2017, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows Of Resources</u>	<u>Deferred Inflows Of Resources</u>
Difference between expected and actual experience.	\$ 591,179	\$ -0-
Changes in assumption.	1,017,137	-0-
Net Difference between projected and actual earnings on pension plan investments.	1,888,964	-0-
Changes in proportion and difference between Authority contributions and proportionate share of contributions.	82,338	-0-
Authority contributions subsequent to the measurement date.	595,112	-0-
	<hr/>	<hr/>
TOTAL	\$ 4,174,730	\$ -0-
	<hr/> <hr/>	<hr/> <hr/>

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)  
JUNE 30, 2017**

**(6) Retirement/Pension Plan (Continued)**

\$595,112 reported as deferred outflow of resources related to pensions resulting from the Authority’s contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense (revenue) as follows:

Year Ended June 30:	
2018	\$ 974,815
2019	601,967
2020	1,213,586
2021	789,250
<b>TOTAL</b>	<u>\$3,579,618</u> =====

**Actuarial Assumptions:**

The total pension liability (asset) in the June 30, 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.25 %
Salary Increases	5.83 % at entry to 3.87 % after 30 years of service
Investment Rate of Return	7.25 % through 2017; 7.50 % thereafter, net of pension plan investment expense

Mortality rates were based on the RP-2000 Employee Mortality Table for males and females, as appropriate.

The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period July 1, 2005 through June 30, 2011. The mortality assumptions were revised based on an extension of the experience study including mortality experience through June 30, 2013.

Investment portfolio management is the statutory responsibility of the South Dakota Investment Council (SDIC), which may utilize the services of external money managers for management of a portion of the portfolio. SDIC is governed by the Prudent Man Rule (i.e., the council should use the same degree of care as a prudent man). Current SDIC investment policies dictate limits on the percentage of assets invested in various types of vehicles (equities, fixed income securities, real estate, cash, private equity, etc.). The long-term expected rate of return on pension plan investments was determined using a method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of real rates of return for each major asset class included in the pension plan’s target asset allocation as of June 30, 2016 (see the discussion of the pension plan’s investment policy) are summarized in the following table using geometric means:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Global Equity	58.0%	4.5%
Fixed Income	30.0%	1.8%
Real Estate	10.0%	4.6%
Cash	2.0%	0.7%
<b>Total</b>	<u>100%</u> =====	

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)  
JUNE 30, 2017**

**(6) Retirement/Pension Plan (Concluded)**

**Discount Rate:**

The discount rate used to measure the total pension asset was 7.25 percent through 2017 and 7.50% thereafter. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that matching employer contributions from will be made at rates equal to the member rate. Based on these assumptions, the pension plan’s fiduciary net position was projected to be available to make all future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability (asset).

**Sensitivity of liability to changes in the discount rate:**

The following presents the Authority’s proportionate share of the net pension liability (asset) calculated using the Discount rate of 7.25 percent through 2017 and 7.50 percent thereafter, as well as what the Authority’s proportionate Share of the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage point lower (6.25/6.50%) or 1-percentage point higher (8.25/8.50%) than the current rate:

	<u>1%</u> <u>Decrease</u>	<u>Current</u> <u>Discount</u> <u>Rate</u>	<u>1%</u> <u>Increase</u>
Authority’s proportionate share of the net pension liability (asset)	\$9,503,064	\$1,698,193	\$(4,667,518)

**Pension Plan Fiduciary Net Position:**

Detailed information about the plan’s fiduciary net position is available in the separately issued SDRS financial report.

**(7) Risk Management**

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. There were no insurance claims exceeding insurance coverage during the past three years. During the period ended June 30, 2017, the Authority managed its risks as follows:

**Building Structure Charges:**

The buildings and permanent structures owned by the Authority are not covered by commercial insurance.

**Personal Property Insurance:**

The Authority purchases insurance for the contents of the administration building from a commercial insurance carrier, however, the contents of the Authority’s other buildings are not insured.

**Employee Health Insurance:**

The Authority purchases health insurance for its employees from a commercial insurance carrier. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2017**

#### **(7) Risk Management (Continued)**

##### Liability Insurance:

The Authority purchases liability insurance for risks related to torts, theft or damage of property, errors and omissions of public officials, employee practices liability coverage, and professional engineers' coverage through its participation in the South Dakota Authority Captive Insurance Company, a component unit of the State of South Dakota. Additional liability coverage including environmental liability is purchased from commercial insurance carriers. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

##### Worker's Compensation:

At the policy renewal date of 06/01/17 the Authority continues to purchase workmen's compensation through the South Dakota Worker's Compensation Insurance Plan. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

##### Unemployment Benefits:

The Authority provides coverage for unemployment benefits by paying into the Unemployment Compensation Fund established by state law and managed by the State of South Dakota.

#### **(8) Significant Commitments, Contracts, and Subsequent Events**

On December 23, 2009, the Authority received \$20,000,000 designated as Sanford Gift No.2. Gift No.2 was originally established for the Sanford Center for Science Education. Two amendments to the Homestake Gift Agreement were signed in June 2010 and October 2011, respectively, whereby it was agreed to use \$15 million of this \$20 million for the purpose of infrastructure and safety upgrades at the Underground Davis Campus and for replacing steel and other rehabilitation of the Ross Shaft. In early August, 2012, the Authority signed a third amendment to the Gift Agreement and received the remaining \$15 million of Gift No.2 called for by Section 2 of the Gift Agreement. The Gift No.2 balance of \$20 million was to be held in a restricted fund whereby the principal was not to be expended until a written approval of a business and operational plan for the Sanford Center for Science Education was received from Mr. Sanford. Furthermore, the third amendment allowed the Authority to utilize and expend interest and other earnings on Gift No.2 restricted funds. In May, 2013, the Authority signed a fourth amendment to the Gift Agreement whereby it was agreed to expend up to \$7,000,000 of Gift No.2 for the construction or remodeling of the Yates Dry Building (located at SURF), the remodeling or replacement of the Lead Homestake Visitor's Center and the remodeling of Jonas Hall (located on the campus of Black Hills State University in Spearfish, SD). This authorization was conditioned on the Authority raising \$1.5 million from other sources for the Black Hills State University project and \$1 million for the Sanford Lab Homestake Visitor's Center in Lead. The Authority secured a \$2 million Future Fund grant from the State of South Dakota in October 2013 and an additional \$500,000 was received in July 2014 from Great Plains Education Foundation that satisfies this monetary obligation. Both outside facilities agreed in writing to incorporate and use the name "Sanford" in the naming of the facilities. Operating agreements are in place which reasonably provide for the ongoing operations of the respective facilities by the Homestake Visitor Center, Inc. and Black Hills State University. Given the construction budget of the (SLHVC) and the Jonas Science Building renovation costs, it was not possible to undertake the upgrades to the Yates Dry. These details were reported in the Fifth Amendment to the Homestake Gift Agreement in February 2015. Furthermore, any part of Gift No.2 not used for the three construction projects may be used for the construction and operation of additional underground laboratory space at SURF to accommodate other experiments, and for related infrastructure to access or support the new laboratory space through the shafts. After the above projects were finished, approximately \$1,000,000 remained. On June 23, 2016 the sixth amendment was signed allowing the Authority to use the remaining funds to purchase real estate known as "Ellison Hill" and to conduct needed environmental assessments and remediation of the property. This will provide needed storage and

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2017**

#### **(8) Significant Commitments, Contracts, and Subsequent Events (Continued)**

construction material laydown space for the (LBNG) and (DUNE) projects. The “Ellison Hill” property was purchased in May 2017. A contract with Horsley Specialties, Inc. was executed in May 2017 for \$357,144 for the asbestos removal. The cost of this remediation will be shared equally by the Authority and Homestake Mining Company per the purchase agreement. With additional change orders, the contract amount was decreased to \$327,144. Remediation of the property is scheduled to be complete in December 2017 and will likely deplete the remaining Gift No. 2 funds.

In February 2010, the Authority entered into a contract with AmWest, Inc. – Hydro Resources in the amount of \$1,540,000 for the installation and maintenance of a deep level pump system. Subsequent change orders increased the contract amount to \$1,782,500 and extended the date through December 31, 2011. Another change order signed in May 2012 increased the contract amount to \$4,482,500 with a period of performance through December 31, 2017. The leased pump system is designed to dewater the mine from approximately the 5000’ level to approximately the 7800’ level. With the current vision of the DOE to not develop science laboratories past the 4850’ level, the scope of this contract has been revised. Further negotiations with AmWest, Inc. resulted in the signing of another addendum to the contract effective January 1, 2013. This addendum reduced the monthly lease charges by \$2,500 per month for the years of 2013 to the end of the lease, tentatively July 31, 2018, resulting in an overall savings of \$150,000. Additionally, the agreement calls for the leased property to become the property of the lessee at the end of the lease without any additional payment. It will then become the property of the Federal Government as these capital asset-type costs are being charged direct to the subcontract with LBNL.

A contract was signed in early January 2014 with the South Dakota School of Mines and Technology (SDSM&T) to be the lead institution for the accelerator project known as (CASPAR) Compact Acceleration System Performing Astrophysical Research. With an additional change order the contract total is \$999,334 and extends into fiscal year 2018. This project is located in the new Ross Campus laboratory at the 4850’ Level. Another underground facility was completed as a laboratory for Black Hills State University to support low background counting activities, biology study workstations, and other future small-scale experiments. Contracts have been signed with both institutions whereby each will pay the Authority for reasonable energy costs and any other specific needed supplies.

The Authority’s long term cooperative agreement with Homestake Mining Company of California continues. The Authority agrees to combine Homestake’s wastewater from Grizzly Gulch with the mine wastewater, as well as treat, and discharge the water. For the first year of this agreement, Homestake agreed to pay the Authority an amount ranging from \$.58 to \$.84 per 1000 gallons based on average total gallons treated per minute per month. Revenue from this agreement for the past two years was \$206,036 and \$147,832 respectively. Revenue was lower this last year due to the number of gallons treated being lower. This negotiated treatment price will be renegotiated once per year for the length of the contract. The negotiated price was renewed for the current year. Estimated revenues for the upcoming year are at \$168,000; somewhat higher than last year’s actual due to increasing Homestake water to be treated. The term of the contract runs to September 30, 2020.

A lease between the Authority and Department of Energy (DOE) for land (above ground) and space (underground) for the Long Baseline Neutrino Facility (LBNF) was signed on March 29, 2016. The term of the lease goes through April 30, 2036, but shall remain in force thereafter from year to year without further notice, but shall in no event extend beyond a total of 65 years. An easement was signed with Homestake Mining Company for the construction and maintenance of conveyor facilities for the transportation of excavated rock to the Open Cut (open mine pit) owned by Homestake. The Long Baseline Neutrino Facility will include a large experimental facility underground at the 4850’L. Waste rock excavated from that level will be deposited into the Open Cut. An additional easement was negotiated with the City of Lead across their property to construct, maintain, and operate this overhead conveyance system.

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2017**

#### **(8) Significant Commitments, Contracts, and Subsequent Events (Continued)**

The Authority, along with the South Dakota Bureau of Administration, and five additional South Dakota Authorities signed a Joint Powers Agreement on June 1, 2015 to form a captive insurance company to insure against certain risks. \$2,500,000 was repurposed in August 2015 from a portion of the \$10,000,000 Indemnification Fund held by the Authority. The original Appropriation Act for the indemnification fund that was made by the State Legislature in 2004 was included as a part of the agreement between Homestake Mining Company and the Authority.

Homestake Mining Company agreed with the signing of the Third Amendment to the Property Donation Agreement in August 2015 to release \$2,500,000 from the Indemnification Fund for the Authority to fund the captive insurance company. The Act from 2004 was revised by the State Legislature per Legislative Session 2015 HB 1186, to allow the use of up to \$2,500,000 to be used to provide initial capital and pay expenses for the Authority's purposes in the captive insurance company.

Letter Agreement #1586 was signed in August 2015 between the Governor's Office of Economic Development (GOED) and the Authority whereby the State is granting up to \$6,000,000 between July 14, 2015 and September 30, 2018. The State has chosen to engage in a partnership with the Authority, the South Dakota Community Foundation, the South Dakota State University Foundation, and the University of South Dakota Foundation to assist with the costs of infrastructure/laboratory upgrades, procurement of xenon for future "Dark Matter" experiments, and interest payments to these foundations. The full \$6,000,000 has been received from the State as well as \$2,000,000 from the South Dakota Community Foundation, and \$1,000,000 each from the University of South Dakota Foundation and the South Dakota State University Foundation. Loan agreements are in place between the Authority and the three foundations for a total of \$6,000,000 to be used for the purchase of xenon for the future LZ experiment. The loans extend to the last quarter of 2026. They are unsecured nonrecourse loans with 2.5% simple interest to be paid quarterly to each lender. The loans will be repaid at the end of the LZ experiment (approximately October 2026) from the sale proceeds of the xenon previously purchased. Purchase orders for xenon have been issued for an additional 700,000 liters at a total price of \$3,869,234 with Praxair Distribution and Baosteel Gases.

#### **(9) Construction Work in Process**

The Authority accumulates the costs of construction projects in Construction Work in Progress until such time as the projects are completed and/or placed in service. Some of the ongoing improvement projects are capitalized as they progress. The \$19,797,453 of construction work in progress at June 30, 2017, consisted of \$17,665,235 of accumulated costs for the Ross Shaft rehabilitation project, \$915,139 for the CASPAR experiment development, \$1,190,700 for LZ facility upgrades, and \$26,379 for the Ellison asbestos assessment and abatement project. The costs accumulated consist of amounts under contract in addition to materials and other expenses purchased by the Authority. The remaining commitment on existing contracts at June 30, 2017 is approximately \$4,697,723. These commitments are to be paid for using current funds that have been redirected from the Sanford Gift #2 as well as the \$12,000,000 funding for the LZ infrastructure/laboratory upgrades, and xenon procurement.

#### **(10) Continuing Operations**

The DOE's 2018 budget proposal includes approximately \$14.6 million to fund basic operations at the Sanford Lab. This basic operations funding transitioned to Fermi National Accelerator Laboratory (FNAL). Further negotiations are in process for extension through FY2018 as well as a five-year contract for DOE operations funding. The Ross Shaft rehabilitation project that also transitioned to FNAL will continue until the project is complete. The 2018 budget proposal includes \$4,756,131 for this project. Additionally, Authority support for the LUX/Zeplin experiment engineering support and installation efforts has been extended to September 2018 with a budget of \$1,468,467.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)**  
**JUNE 30, 2017**

**(11) Related Party Transactions**

Mr. Ron Wheeler was appointed to the Board of Directors by the Governor effective July 1, 2013, and is a current member of the Board of Directors. As of July 1, 2013, Ron Wheeler transitioned from Executive Director to the Director of Governmental & External Affairs for the Authority. Mr. Wheeler was a full-time employee of the Authority until January 3, 2014, at which time he retired from full-time employment. Effective January 3, 2014, the Authority signed a contract with Mr. Wheeler as a consultant for the Authority. The contract, including amendments, is for \$395,000 and extends to January 3, 2019. For the period of July 1, 2016 – June 30, 2017, he was paid \$69,013.13 for his consulting services. Mr. Wheeler will assist in directing the state and federal government affairs programs for the Authority. Furthermore, he will maintain and foster private funding sources for the long-term growth of the facility.

REQUIRED SUPPLEMENTARY INFORMATION OTHER THAN MD&A



**SCHEDULE OF PROPORTIONATE SHARE OF THE NET PENSION LIABILITY (ASSET)**

**South Dakota Retirement System**

Last 10 Fiscal Years \*

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Authority's proportion of the net pension liability (asset)	0.5027360%	0.5089089%	0.5287996%
Authority's proportionate share of net pension liability (asset)	\$ 1,698,193	\$ (2,158,428)	\$ (3,809,788)
Authority's covered employer payroll	\$ 9,256,007	\$ 9,042,866	\$ 8,888,749
Authority's proportionate share of the net pension liability (asset) as a percentage of its covered-employee payroll	18.35%	23.87%	42.86%
Plan fiduciary net position as a percentage of the total pension liability (asset)	96.89%	104.10%	107.00%

\* The amounts presented for each fiscal year were determined as of the measurement date of the collective net pension liability (asset) which is 6/30 of previous fiscal year. Until a full 10-year trend is compiled, the Authority will present information

**SCHEDULE OF THE AUTHORITY CONTRIBUTIONS**

**South Dakota Retirement System**

Last 10 Fiscal Years

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Contractually required contribution	\$ 595,112	\$ 573,626	\$ 557,420
Contributions in relation to the contractually required contribution	<u>\$ 595,112</u>	<u>\$ 573,626</u>	<u>\$ 557,420</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Authority's covered-employee payroll	\$ 9,596,007	\$ 9,256,007	\$ 9,042,866
Contributions as a percentage of covered-employee payroll	6.20%	6.20%	6.16%

\* Until a full 10-year trend is compiled, the Authority will present information for those years for which information is available.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY  
NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION  
Schedule of the Proportionate Share of the Net Pension Liability (Asset) and  
Schedule of the Authority Contributions.

**Changes of benefit terms:**

No significant changes.

**Changes of assumptions:**

No significant changes.

SUPPLEMENTARY INFORMATION

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**SCHEDULE OF OPERATING EXPENSES  
FOR THE YEAR ENDED JUNE 30, 2017**

<b>Personal Services</b>	
Employee Salaries	\$ 8,688,403
Employee Benefits	5,005,249
<b>Total Personal Services</b>	<b>13,693,652</b>
<b>Travel</b>	
Meals and Lodging	51,738
Auto and Fleet Services	37,026
Air - Commercial and Charter	38,145
Incidentals to Travel	3,580
Non-Employee Travel	51,963
Meals (Not Overnight)	127
<b>Total Travel</b>	<b>182,579</b>
<b>Contractual Services</b>	
Equipment Rental	104,578
Contractual - Other	5,477,254
Insurance	410,873
Lobbying	215,000
Computer Services	299,924
Telecommunications	48,121
Monitoring and Programming	76,311
Legal Consultant	109,976
Training	19,612
Consultant Fees - Accounting and Auditing	13,120
Promotion and Advancement	16,413
Dues and Memberships	3,226
Utilities	2,188,775
Maintenance and Repairs	1,115,762
<b>Total Contractual Services</b>	<b>10,098,945</b>
<b>Supplies, Materials and Other Operating Expenses</b>	
Maintenance and Repairs	1,380,404
Other Supplies and Equipment	1,096,983
Other Expenses	4,122
Office Supplies and Equipment	20,444
Safety	364
Licenses and Permits	40,011
Workshop and Registration Fees	17,442
Postage	4,033
Bank Charges	690
<b>Total Supplies, Materials and Other Operating Expenses</b>	<b>2,564,493</b>
<b>Amortization Expense</b>	<b>137,752</b>
<b>Depreciation Expense</b>	<b>1,957,886</b>
<b>Total Operating Expenses</b>	<b>\$ 28,635,307</b>

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
FOR THE YEAR ENDED JUNE 30, 2017**

	Pass-Through Numbers	CFDA Numbers	Amount
<i>U.S. Department of Energy</i>			
Pass-Through the Regents of the University of California LUX (Large Underground Xenon) Research & Development	6973786	81.6973786	\$ 194,896
<i>U.S. Department of Energy</i>			
Pass-Through the Regents of the University of California SURF (Sanford Underground Research Facility) Operations Support	6994297	81.6994297	5,474,402
<i>U.S. Department of Energy</i>			
Pass-Through the Regents of the University of California LUX/Zeplin (LZ) Cryogenic System Integration and Installation	7255146	81.7255146	917,425
<i>U.S. Department of Energy</i>			
Pass-Through the Regents of the University of California SURF (Sanford Underground Research Facility) Ross Shaft Rehab	7262800	81.7262800	3,671,379
<i>U.S. Department of Energy</i>			
Pass-Through the Regents of the University of California LBNL Kismet Project	7289931	81.7289931	74,285
<i>U.S. Department of Energy</i>			
Pass-Through Oak Ridge National Laboratory Experiment Support for Majorana Demonstrator	4000144149	81.4000144149	20,175
<i>U.S. Department of Energy</i>			
Pass-Through Fermi National Accelerator Laboratory (Note 3) SURF (Sanford Underground Research Facility) Operations Support	629760	81.629760	9,560,663
<i>U.S. Department of Energy</i>			
Pass-Through Fermi National Accelerator Laboratory (Note 3) SURF (Sanford Underground Research Facility) Ross Shaft Rehab	630223	81.630223	2,984,691
<i>U.S. Department of Energy</i>			
Pass-Through RESPEC R & D Rock Melt Sealing Tests	02703A	81.02703A	114,102
<i>National Science Foundation:</i>			
Pass-Through South Dakota School of Mines & Technology Mathematical and Physical Sciences Research Grant	PHY-1615197	47.049	20,650
<i>U.S. General Services Administration:</i>			
Pass-Through South Dakota Federal Property Agency (Note 4)	-	39.003	<u>5</u>
<b>Total</b>			<b><u><u>\$ 23,032,673</u></u></b>

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO SCHEDULE OF EXPENDITURE OF FEDERAL AWARDS  
JUNE 30, 2017**

**Note 1: *Basis of Presentation***

The accompanying Schedule of Expenditures of Federal Awards (the "Schedule") includes the federal award activity of the Authority under programs of the federal government for the year ended June 30, 2017. The information in this Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance). Because the Schedule presents only a selected portion of the operations of the Authority, it is not intended to and does not present the financial position, changes in net position, or cash flows of the Authority.

**Note 2: *Summary of Significant Accounting Policies***

Expenditures reported on the Schedule are reported on the cash basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years. The Authority has elected not to use the 10-percent indirect cost rate as allowed under the Uniform Guidance

**Note 3: *Major Federal Financial Assistance Program***

This represents a Major Federal Financial Assistance Program.

**Note 4: *Federal Surplus Property***

The amount reported represents 23.3% of the original acquisition cost of the federal surplus property received by the Authority.

Page intentionally  
blank



**Financial Report—Mr. Mike Headley**

---

Attached are the Financial Summaries for February 2018.

---

**Recommended Action:**

*Motion to accept the Financial Report as presented.*

Page intentionally  
blank

DIVISION: ALL

BALANCE SHEET

ASSETS

AS OF  
02/28/18

CURRENT ASSETS

First Interstate Checking	\$	1,084,929.96
First Interstate Other		10,769.29
		-----
Total in Local Checking		1,095,699.25
SD Treas: Indemnification		7,500,000.00
SD Treas: Mine Closure		1,415,782.17
SD Treas: Operating		480,685.27
SD Treas: Sanford Gift #2		322,567.97
SD Treas: Experiments		2,815,505.86
		-----
Total with SD Treasurer		12,534,541.27
Billed A/R		1,551,593.70
Unbilled A/R		445,029.36
Other A/R		93,806.67
Inventory - Supplies		2,416,621.40
Inventory - Warehouse		31,154.64
Other Current Assets		684,491.92
		-----
Total Current Assets		18,852,938.21

FIXED ASSETS

Land, Underground & Other		12,633,473.13
Bldgs & Infrastructure		10,079,478.68
Improvements		63,427,334.26
Computer Equipment		431,565.17
Equipment & Fixtures		10,827,646.09
Accum Depr & Amort		(13,977,099.05)
		-----
Total Fixed Assets		83,422,398.28

OTHER ASSETS

Work in Process		1,530,780.25
Pension Deferred Outflows		4,174,730.00
Xenon Purchased		5,040,356.11
		-----
Total Other Assets		10,745,866.36

TOTAL ASSETS

=====

\$	113,021,202.85
----	----------------

=====

DIVISION: ALL

BALANCE SHEET

LIABILITIES & EQUITY

		AS OF 02/28/18
		-----
<b>CURRENT LIABILITIES</b>		
Accounts Payable	\$	821,193.93
Other Payables		11,495.76
		-----
Total Accounts Payable		832,689.69
Accrued Payroll Liab		1,359,084.15
		-----
Total Current Liabilities		2,191,773.84
<b>OTHER LIABILITIES</b>		
LT Xenon Notes Payable		4,000,000.00
Pension Deferred Inflows		1,698,193.00
		-----
Total Other Liabilities		5,698,193.00
<b>EQUITY</b>		
Restricted: Indemnificati		7,500,000.00
Restricted: Mine Closure		1,415,782.17
Restricted: Sanford Gift2		322,567.97
Restricted: Pension		2,476,537.00
Restricted: Experim. Int.		2,753,584.00
		-----
Total Restricted Funds		14,468,471.14
Investment in Gen FA		83,422,398.28
Unrestricted Funds		7,240,366.59
		-----
Total Equity		105,131,236.01
<b>TOTAL LIABILITIES &amp; EQUITY</b>		
	\$	=====
		113,021,202.85
		=====

ALL

## STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/18

	YR-TO-DATE
	-----
REVENUE	
DOE Subcontracts	\$ 13,809,335.73
NSF/NASA Subcontracts	15,275.85
State Revenue	1,226.96
Contributions & Donations	125,000.00
Checking Interest	1,147.95
Interest Income	84,677.33
	-----
TOTAL REVENUE	14,036,663.82
DIRECT COSTS	
Direct Labor	4,431,603.69
ERT Labor	54,358.22
Board of Directors	5,149.79
Capital Outlay >\$5K	307,773.93
Contractual Svcs	1,656,712.25
Inventory	112,150.56
Supplies	654,734.61
Travel - Domestic	39,187.34
Travel - Foreign	10,938.08
Utilities	1,361,090.65
Other Direct Costs	125,168.82
Unallow/Unbill Costs	230,437.28
	-----
TOTAL DIRECT COSTS	8,989,305.22
INDIRECT COSTS	
Fringe Benefits	2,716,777.50
Overhead	3,192,620.19
	-----
TOTAL INDIRECT COSTS	5,909,397.69
	-----
GROSS PROFIT/LOSS ( )FROM OPERATIONS	(862,039.09)
	-----
OTHER INCOME	
Water Treatment	69,110.16
Miscellaneous Income	249,788.87
Other Operating Income	4,803.70
	-----
TOTAL OTHER INCOME	323,702.73
OTHER EXPENSES	
Loss(Gain) on Sale of FA	65,176.46
Reclass Incr Net Assets	(1,357,701.40)
	-----
TOTAL OTHER EXPENSES	(1,292,524.94)
	-----
NET INCOME/LOSS ( )	\$ ===== 754,188.58 =====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## ASSETS

	AS OF 02/28/18	AS OF 02/28/17	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 1,084,929.96	\$ 551,276.20	\$ 533,653.76	96.80%
First Interstate Other	10,769.29	17,199.41	(6,430.12)	-37.39%
	-----	-----	-----	-----
Total in Local Checking	1,095,699.25	568,475.61	527,223.64	92.74%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,415,782.17	1,398,522.89	17,259.28	1.23%
SD Treas: Operating	480,685.27	361,693.54	118,991.73	32.90%
SD Treas: Sanford Gift #2	322,567.97	1,039,727.97	(717,160.00)	-68.98%
SD Treas: Experiments	2,815,505.86	3,364,350.84	(548,844.98)	-16.31%
	-----	-----	-----	-----
Total with SD Treasurer	12,534,541.27	13,664,295.24	(1,129,753.97)	-8.27%
Billed A/R	1,551,593.70	2,674,393.33	(1,122,799.63)	-41.98%
Unbilled A/R	445,029.36	543,240.09	(98,210.73)	-18.08%
Other A/R	93,806.67	237,193.77	(143,387.10)	-60.45%
Inventory - Supplies	2,416,621.40	2,408,322.74	8,298.66	0.34%
Inventory - Warehouse	31,154.64	34,449.62	(3,294.98)	-9.56%
Other Current Assets	684,491.92	393,304.76	291,187.16	74.04%
	-----	-----	-----	-----
Total Current Assets	18,852,938.21	20,523,675.16	(1,670,736.95)	-8.14%
<b>FIXED ASSETS</b>				
Land, Underground & Other	12,633,473.13	12,398,635.03	234,838.10	1.89%
Bldgs & Infrastructure	10,079,478.68	9,122,537.68	956,941.00	10.49%
Improvements	63,427,334.26	63,074,266.88	353,067.38	0.56%
Computer Equipment	431,565.17	440,207.18	(8,642.01)	-1.96%
Equipment & Fixtures	10,827,646.09	10,580,972.55	246,673.54	2.33%
Accum Depr & Amort	(13,977,099.05)	(12,272,672.81)	(1,704,426.24)	13.89%
	-----	-----	-----	-----
Total Fixed Assets	83,422,398.28	83,343,946.51	78,451.77	0.09%
<b>OTHER ASSETS</b>				
Work in Process	1,530,780.25	3,334,448.33	(1,803,668.08)	-54.09%
Equipment - Capital Lease	-	268,134.61	(268,134.61)	-100.00%
Pension Deferred Outflows	4,174,730.00	6,287,854.00	(2,113,124.00)	-33.61%
Xenon Purchased	5,040,356.11	1,606,663.11	3,433,693.00	213.72%
	-----	-----	-----	-----
Total Other Assets	10,745,866.36	11,497,100.05	(751,233.69)	-6.53%
	=====	=====	=====	=====
<b>TOTAL ASSETS</b>	<b>\$ 113,021,202.85</b>	<b>\$ 115,364,721.72</b>	<b>\$ (2,343,518.87)</b>	<b>-2.03%</b>
	=====	=====	=====	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 02/28/18	AS OF 02/28/17	\$ CHANGE	% CHANGE
<b>CURRENT LIABILITIES</b>				
Accounts Payable	\$ 821,193.93	\$ 1,028,498.03	\$ (207,304.10)	-20.16%
Other Payables	11,495.76	100,280.58	(88,784.82)	-88.54%
	-----	-----	-----	-----
Total Accounts Payable	832,689.69	1,128,778.61	(296,088.92)	-26.23%
Accrued Payroll Liab	1,359,084.15	1,367,151.69	(8,067.54)	-0.59%
	-----	-----	-----	-----
Total Current Liabilities	2,191,773.84	2,495,930.30	(304,156.46)	-12.19%
<b>OTHER LIABILITIES</b>				
LT Accrued EB/Lease	-	268,134.61	(268,134.61)	-100.00%
LT Xenon Notes	4,000,000.00	4,000,000.00	-	0.00%
Pension Deferred Inflows	1,698,193.00	3,184,802.00	(1,486,609.00)	-46.68%
	-----	-----	-----	-----
Total Other Liabilities	5,698,193.00	7,452,936.61	(1,754,743.61)	-23.54%
	-----	-----	-----	-----
<b>TOTAL LIABILITIES</b>	<b>7,889,966.84</b>	<b>9,948,866.91</b>	<b>(2,058,900.07)</b>	<b>-20.69%</b>
<b>EQUITY</b>				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Mine Closure	1,415,782.17	1,398,522.89	17,259.28	1.23%
Restricted: Sanford Gift2	322,567.97	1,039,727.97	(717,160.00)	-68.98%
Restricted: Pension	2,476,537.00	3,103,052.00	(626,515.00)	-20.19%
Restricted: Experim. Int.	2,753,584.00	3,364,350.84	(610,766.84)	-18.15%
	-----	-----	-----	-----
Total Restricted Funds	14,468,471.14	16,405,653.70	(1,937,182.56)	-11.81%
Investment in Gen FA	83,422,398.28	83,343,946.51	78,451.77	0.09%
Unrestricted Funds	7,240,366.59	5,666,254.60	1,574,111.99	27.78%
	-----	-----	-----	-----
<b>TOTAL EQUITY</b>	<b>105,131,236.01</b>	<b>105,415,854.81</b>	<b>(284,618.80)</b>	<b>-0.27%</b>
	=====	=====	=====	=====
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>\$ 113,021,202.85</b>	<b>\$ 115,364,721.72</b>	<b>\$ (2,343,518.87)</b>	<b>-2.03%</b>
	=====	=====	=====	=====

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/18

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
<b>REVENUE</b>				
DOE Subcontracts	\$ 13,809,335.73	\$ 17,954,607.55	\$ (4,145,271.82)	-23.09%
NSF/NASA Subcontracts	15,275.85	10,208.70	5,067.15	49.64%
State Revenue	1,226.96	12,000.00	(10,773.04)	-89.78%
Contributions & Donations	125,000.00	125,000.00	-	0.00%
Checking Interest	1,147.95	495.52	652.43	131.67%
Interest Income	84,677.33	93,528.12	(8,850.79)	-9.46%
<b>TOTAL REVENUE</b>	<b>14,036,663.82</b>	<b>18,195,839.89</b>	<b>(4,159,176.07)</b>	<b>-22.86%</b>
<b>DIRECT COSTS</b>				
Direct Labor	4,431,603.69	4,985,614.86	(554,011.17)	-11.11%
ERT Labor	54,358.22	13,851.00	40,507.22	292.45%
Board of Directors	5,149.79	5,669.01	(519.22)	-9.16%
Capital Outlay >\$5K	307,773.93	574,651.00	(266,877.07)	-46.44%
Contractual Svcs	1,656,712.25	4,270,447.33	(2,613,735.08)	-61.21%
Inventory	112,150.56	138,029.02	(25,878.46)	-18.75%
Supplies	654,734.61	1,099,900.90	(445,166.29)	-40.47%
Travel - Domestic	39,187.34	45,136.90	(5,949.56)	-13.18%
Travel - Foreign	10,938.08	51,587.49	(40,649.41)	-78.80%
Utilities	1,361,090.65	1,406,006.01	(44,915.36)	-3.19%
Other Direct Costs	125,168.82	126,884.67	(1,715.85)	-1.35%
Unallow/Unbill Costs	230,437.28	244,851.36	(14,414.08)	-5.89%
<b>TOTAL DIRECT COSTS</b>	<b>8,989,305.22</b>	<b>12,962,629.55</b>	<b>(3,973,324.33)</b>	<b>-30.65%</b>
<b>INDIRECT COSTS</b>				
Fringe Benefits	2,716,777.50	2,806,530.40	(89,752.90)	-3.20%
Overhead	3,192,620.19	3,649,027.55	(456,407.36)	-12.51%
<b>TOTAL INDIRECT COSTS</b>	<b>5,909,397.69</b>	<b>6,455,557.95</b>	<b>(546,160.26)</b>	<b>-8.46%</b>
<b>GROSS PROFIT/LOSS ( )</b>	<b>(862,039.09)</b>	<b>(1,222,347.61)</b>	<b>360,308.52</b>	<b>-29.48%</b>
<b>OTHER INCOME</b>				
Water Treatment	69,110.16	89,806.50	(20,696.34)	-23.05%
Miscellaneous Income	249,788.87	86,107.87	163,681.00	190.09%
Other Operating Income	4,803.70	2,090.88	2,712.82	129.75%
<b>TOTAL OTHER INCOME</b>	<b>323,702.73</b>	<b>178,005.25</b>	<b>145,697.48</b>	<b>81.85%</b>
<b>OTHER EXPENSES</b>				
Loss(Gain) on Sale of FA	65,176.46	-	65,176.46	100.00%
Reclass Incr Net Assets	(1,357,701.40)	(1,180,528.31)	(177,173.09)	15.01%
<b>TOTAL OTHER EXPENSES</b>	<b>(1,292,524.94)</b>	<b>(1,180,528.31)</b>	<b>(111,996.63)</b>	<b>9.49%</b>
<b>NET INCOME/LOSS ( )</b>	<b>\$ 754,188.58</b>	<b>\$ 136,185.95</b>	<b>\$ 618,002.63</b>	<b>453.79%</b>



**South Dakota Science & Technology Authority**  
**Available Resources**  
**2/28/2018**

Cash Total Checking	\$	1,084,930
Cash With State Treasurer	\$	<u>12,534,541</u>
Total Cash	\$	13,619,471
Less: Restricted Funds		
Indemnification/Mine Closure	\$	(8,915,782)
Experiments (Xenon, Interest, Infrastructure)	\$	<u>(2,815,506)</u>
 Total Cash Available for Infrastructure Upgrades and Authority Operations	 \$	 1,888,183
Plus: Accounts Receivable Billed	\$	1,551,594
Accounts Receivable Unbilled	\$	445,029
Less: Current Liabilities (Accounts Payable & Accrued Payroll) (not including accts. pay. for Experiment funding)	\$	<u>(2,119,011)</u>
Available Cash	\$	<u><u>1,765,795</u></u>

SDSTA Operating Budget Summary FY2018  
Actual vs Budget  
Feb. 2018 & YTD

	Feb. 2018	Budget	\$ Over/Under		Actual YTD	YTD Budget	\$ Over/Under		% Remaining
			Budget	% of Budget			Budget	% of Budget	
SDSTA (Authority) Direct Charges									100%
Board of Directors	\$17,917.00	\$19,900.00	\$1,983.00	90.04%	\$149,749.00	\$159,200.00	\$9,451.00	94.06%	5.94%
Executive Office	\$25,569.00	\$22,263.00	<b>-\$3,306.00</b>	114.85%	\$129,317.00	\$125,371.00	<b>-\$3,946.00</b>	103.15%	<b>-3.15%</b>
Science Center E & O	\$0.00	\$0.00	\$0.00	0.0%	\$11,147.00	\$25,749.00	\$14,602.00	43.29%	56.71%
Science Liaison	\$694.00	\$0.00	<b>-\$694.00</b>	100.0%	<b>-\$301.00</b>	\$0.00	\$301.00	100.00%	100.00%
Sanf.L.Visitor C. (Director)	\$0.00	\$0.00	\$0.00	0.0%	\$7,196.00	\$21,503.00	\$14,307.00	33.47%	66.53%
Subtotal	\$44,180.00	\$42,163.00	<b>-\$2,017.00</b>	104.78%	\$297,108.00	\$331,823.00	\$34,715.00	89.54%	10.46%
Federal/State Funding - Direct Charges									
Fermi P.O.#625691 B/Site Final Des.	\$0.00	\$0.00	\$0.00	0.0%	\$124,417.00	\$124,417.00	\$0.00	100.00%	0.00%
Fermi P.O.#625692 Pre Excav.F.D.	\$0.00	\$0.00	\$0.00	0.0%	\$164,709.00	\$164,709.00	\$0.00	100.00%	0.00%
Fermi P.O.Miscellaneous	\$0.00	\$0.00	\$0.00	0.0%	\$3,204.00	\$3,580.00	\$376.00	89.50%	10.50%
Fermi P.O.#631450 Engin. Services	\$0.00	\$0.00	\$0.00	0.0%	\$52,024.00	\$79,499.00	\$27,475.00	65.44%	34.56%
Fermi P.O.#639366 Prof. Services	\$0.00	\$0.00	\$0.00	0.0%	\$79,303.00	\$91,717.00	\$12,414.00	86.46%	13.54%
Fermi P.O.#641665 Prof. Services	\$24,589.00	\$24,506.00	<b>-\$83.00</b>	100.34%	\$35,281.00	\$40,136.00	\$4,855.00	87.90%	12.10%
Fermi C#629760 Bridge OPS	\$978,889.00	\$889,780.00	<b>-\$89,109.00</b>	110.02%	\$7,313,744.00	\$7,541,906.00	\$228,162.00	96.97%	3.03%
Fermi C#630223 Ross Rehab	\$186,522.00	\$250,483.00	\$63,961.00	74.47%	\$2,354,377.00	\$3,053,826.00	\$699,449.00	77.10%	22.90%
LBNL LUX C#6973786	\$0.00	\$0.00	\$0.00	0.00%	\$39,068.00	\$48,691.00	\$9,623.00	80.24%	19.76%
LBNL LUX/Zeplin C#7255146	\$132,443.00	\$158,643.00	\$26,200.00	83.49%	\$351,919.00	\$439,980.00	\$88,061.00	79.99%	20.01%
LBNL LZ Constr.C#7351116	\$124,729.00	\$183,000.00	\$58,271.00	68.16%	\$167,283.00	\$235,000.00	\$67,717.00	71.18%	28.82%
LBNL LZ Operations C#7355157	\$12,664.00	\$10,071.00	<b>-\$2,593.00</b>	125.75%	\$46,877.00	\$43,267.00	<b>-\$3,610.00</b>	108.34%	<b>-8.34%</b>
LBNL SIGMA-V C#7371823	\$9,867.00	\$6,679.00	<b>-\$3,188.00</b>	147.73%	\$60,538.00	\$59,179.00	<b>-\$1,359.00</b>	102.30%	<b>-2.30%</b>
MJD (Majorana) ORNL144149	\$2,027.00	\$2,600.00	\$573.00	77.96%	\$19,131.00	\$20,500.00	\$1,369.00	93.32%	6.68%
BHSU-UGCampus Gen.Serv.	\$0.00	\$200.00	\$200.00	0.0%	\$975.00	\$1,600.00	\$625.00	60.94%	39.06%
Sanf.Sci.Ed.Center - GOED Funded	\$35,325.00	\$33,500.00	<b>-\$1,825.00</b>	105.45%	\$302,151.00	\$317,666.00	\$15,515.00	95.12%	4.88%
SDSM&Tech CASPAR Gen.Serv.	\$1,626.00	\$2,666.00	\$1,040.00	60.99%	\$12,159.00	\$21,328.00	\$9,169.00	57.01%	42.99%
* Xilinx, Inc. P.O.#732495	\$709.00	\$1,000.00	\$291.00	70.9%	\$3,795.00	\$4,220.00	\$425.00	89.93%	10.07%
Subtotal	\$1,509,390.00	\$1,563,128.00	\$53,738.00	96.56%	\$11,130,955.00	\$12,291,221.00	\$1,160,266.00	90.56%	9.44%
Indirect Expenses									
Indirect Charges Personnel	\$118,012.00	\$120,399.00	\$2,387.00	98.02%	\$1,013,978.00	\$1,021,620.00	\$7,642.00	99.25%	0.75%
Indirect Charges Other	\$303,911.00	\$267,986.00	<b>-\$35,925.00</b>	113.41%	\$2,553,461.00	\$2,178,939.00	<b>-\$374,522.00</b>	117.19%	<b>-17.19%</b>
Subtotal	\$421,923.00	\$388,385.00	<b>-\$33,538.00</b>	108.64%	\$3,567,439.00	\$3,200,559.00	<b>-\$366,880.00</b>	111.46%	<b>-11.46%</b>
Totals	\$1,975,493.00	\$1,993,676.00	\$18,183.00	99.09%	\$14,995,502.00	\$15,823,603.00	\$828,101.00	94.77%	5.23%
* Private Corporation (Commercial Group)									

SDSTA CAPEX Budget Summary FY17/18  
Actual vs Budget  
February 2018 & YTD

<u>Budget Area</u>	<u>Actual Month</u>	<u>FY2018 Monthly Budget</u>	<u>\$ Over/Under Budget</u>	<u>% of Budget</u>	<u>Actual YTD</u>	<u>FY2018 YTD Budget</u>	<u>\$ Over/Under Budget</u>	<u>% of Budget</u>	<u>% Remaining</u>
									100.00%
Operational CAPEX	\$ 2,891.52	\$ 3,625.00	\$ 733.48	79.77%	\$ 1,403,130.12	\$ 4,677,160.00	\$ 3,274,029.88	30.00%	70.00%
TOTAL CAPEX	<u>\$ 2,891.52</u>	<u>\$ 3,625.00</u>	<u>\$ 733.48</u>	<u>79.77%</u>	<u>\$ 1,403,130.12</u>	<u>\$ 4,677,160.00</u>	<u>\$ 3,274,029.88</u>	<u>30.00%</u>	<u>70.00%</u>

SD Science & Technology Authority  
Operational CAPEX Budget  
Monthly Actual vs Budget

Project #	Project Description	Feb. 2018	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ -	\$ -	\$ -	0.00%
CAP2014-05	CASPAR Experiment Development	\$ -	\$ -	\$ -	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 762.45	\$ 3,000.00	\$ 2,237.55	25.42%
CAP2016-03	LZ Xenon Gas	\$ 2,129.07	\$ 625.00	\$ (1,504.07)	340.65%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
	Monthly Totals	\$ 2,891.52	\$ 3,625.00	\$ 733.48	79.77%

SD Science & Technology Authority  
Operational CAPEX Budget  
YTD FY2018 Actual vs Budget

Project #	Project Description	Feb. 2018 YTD	FY2018 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 8,713.93	\$ 5,268.00	\$ (3,445.93)	165.41%	-65.41%
CAP2014-05	CASPAR Experiment Development	\$ 79,850.19	\$ 79,850.00	\$ (0.19)	100.00%	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 168,438.32	\$ 251,329.00	\$ 82,890.68	67.02%	32.98%
CAP2016-03	LZ Xenon Gas	\$ 977,972.13	\$ 4,100,000.00	\$ 3,122,027.87	23.85%	76.15%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 168,155.55	\$ 240,713.00	\$ 72,557.45	69.86%	30.14%
	Totals	\$ 1,403,130.12	\$ 4,677,160.00	\$ 3,274,029.88	30.00%	70.00%

Page intentionally  
blank

**Executive Director's Report—Mr. Mike Headley**

---

The Executive Director's Report includes the following:

- 10A. SDSTA Quarterly Update—February monthly report attached (financial summaries are also located under Item No. 9 Financial Report).
- 10B. Declaration of Surplus (informational).
- 10C. Science Update (presentation).

---

**Recommended Action:**

*Motion to accept the Executive Director's Report as presented.*

Page intentionally  
blank



# **February Monthly Report**

*Submitted by Mike Headley*

*SDSTA Executive Director*

*Sanford Underground Research Facility Laboratory*

*Director March 21, 2018*



## **Science**

- Various research groups participated in the quarterly evacuation exercise that included releasing stench gas and evacuating all personnel to the 4850L Refuge Chamber (due to critical activities, one group requested a waiver for a portion of their crew, which was coordinated ahead of the exercise). Separate localized evacuation tabletop discussions continue to be conducted on a monthly basis.
- Facility highlights: An auxiliary power supply issue with the Davis Campus alarm system was fixed by the service contractor. The North Entrance drift filter wall structure was completely removed (initial decommissioning was performed in October 2016 after Ross Campus electroforming activities stopped). Equipment (including some storage items and a muon counter system) was removed from the Davis Campus Entrance Cutout to accommodate LZ's future radon-reduction system. One of the oxygen sensors in the Davis Campus drifted out of calibration and will be recalibrated in early March along with units at various facilities as part of the regular 6-month maintenance. Engineering personnel continue to monitor the floor crack at the Davis Campus; the crack monitor showed no change, but there appeared to be more small cracks in the paint.
- Interruptions: Site access was restricted one day (SDSTA holiday, but two science groups had scheduled underground activities) and delayed by two hours the next day due to poor weather and traveling conditions. A special All Hands meeting in February delayed the regular cage time for researchers by about an hour. Impacts related to the Davis Cavern demolition work have been modest: shutting down the cleanroom room air handling unit improved differential pressure in MJD spaces (good) and there were some minor network and lighting interruptions. Following maintenance work in January, there were no issues with the Davis Campus dehumidifier.

## **MAJORANA DEMONSTRATOR—MJD**

- Regular detector operations continue. Regular calibration also continue and included some minor troubleshooting of the hardware interlocks and sequencing.
- Work continues organizing storage items in the Electroforming Room as well as on the power supplies and monitoring system (including conductivity probes, leak sensors and configuring operational alarm settings) for the Davis Campus electroforming baths. MJD's lead lab, Oak Ridge National Laboratory (ORNL), is reviewing procedures.
- Acid leaching was performed on small parts (tweezers, Vespel connectors) as well as on the tubing for a new calibration track (the Co-56 source has been ordered but the lead time from the vendor is up to 12 weeks). Acid etching was performed on high voltage fork components that were then shipped to the University of North Carolina (UNC).
- Some of the particle counters are experiencing pump issues (like Sanford Lab units that are a similar model) and have been sent to the manufacturer for repair.

## **Low-Background Counting**

### **Black Hills State University Underground Campus—BHUC:**

- Work in March is expected to advance progress to support automated liquid nitrogen (LN) operations.

### **BHUC Physics Users:**

- Assays of LZ samples continue. The last three LZ photomultiplier tubes (PMTs) from the initial campaign will be counted in March.
- The new shield access mechanism for one of the low-background counters (LBCs) managed by Lawrence Berkeley National Lab (LBNL) was installed with onsite engineering assistance. Detectors for the dual-crystal LBC were returned to the site after being repaired at the manufacturer; LBNL personnel will return in early March for follow-up testing and commissioning.

- The vendor is still diagnosing issues related to operation of the University of South Dakota (USD)/Alabama low-background counter (Ge-IV). It is unlikely that work at Sanford Lab will resume until after March.
- SDSTA personnel are reviewing the Experiment Planning Statement that was received for the USD/UNC MALBEK LBC.

### **Compact Accelerator System for Performing Astrophysical Research—CASPAR**

- Following the closure of related action items as well as agreement on appropriate training, LN use was authorized in early February.
- The accelerator emergency shutdown procedure was reviewed and approved by Sanford Lab.
- Physics measurements began in late February with personnel staffing double shifts, including over a weekend. The main physics reaction under study involves a nitrogen target to study a CNO reaction that takes place in stars that are slightly larger than our Sun:  $^{14}\text{N}(p,\gamma)^{15}\text{O}$  at 879 keV + other energies.

### **LUX-ZEPLIN—LZ**

- Underground infrastructure work in the Davis Cavern is proceeding well and on schedule. The demolition phase is nearing completion: cleanroom removed, masonry walls essentially removed in a few locations, conduit removed, etc.
- Preparation for the arrival of the first major parts in April (including the titanium cryostat vessels) are ongoing in the Surface Laboratory. Electrical connections were completed for the Surface Laboratory cleanroom hoists, and planning for the associated load tests is still underway. Teflon plate-out samples were collected and counted and LZ personnel continue to work with SDSTA electrical engineers regarding the custom radon detector. The radon-reduction system is currently offline as the service contractor contacts vendors for hardware that they do not normally support.
- ESH coordination, including site visits from LBNL LZ safety coordinator, continue in conjunction with preparation for assembly at Sanford Lab. The LZ chief engineer was onsite again in February.

### **Other Current Research Activities**

#### **Physics:**

- SENSEI: Anticipating initial draft of Experiment Planning Statement and discussions scheduled for March 20 with experiment representatives from FNAL, Stonybrook and Tel Aviv.

#### **Geology:**

- SIGMA-V: Crews identified hydraulically-connected natural fractures intersected by the new drill holes; to support that work Sanford Lab reviewed and approved a procedure for using an air compressor to remove water from the holes. Sanford Lab also reviewed and approved a procedure for the assembly and installation of geophysical monitoring equipment; a week was spent on the surface to complete electrical inspections prior to shipment underground. By the end of the month, monitoring packages were assembled and installed in all six boreholes (two holes do not have monitoring equipment). Sanford Lab and SIGMA-V leadership successfully hosted representatives from the Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy; see <https://eesa.lbl.gov/11402-2>.

#### **Biology:**

- BHSU Biodiversity: Researchers are interested in poorly-oxygenated water and are considering sampling from the Waste Water Treatment Plant (WWTP).
- NASA Astrobiology Institute: With a few changes in their scheduling, researchers are now tentatively considering a sampling trip in April.

**Other:** Discussions continue regarding mine safety research led by the South Dakota School of Mines and Technology (SDSM&T).

## **Underground Access**

### **Ross Shaft**

The Ross shaft project is currently in a “stop work” mode with no access in the shaft except for authorized maintenance inspections. Ross Shaft steel installation is on hold until a slack rope/load monitoring system and dogging system are installed. Crews are currently working on UMC projects under the operations budget.

### **Yates Shaft**

A total of 174 loads were handled through the shaft in February. Top Down Maintenance (TDM) corrected 129 conditions for the month. Refurbishment activities took place near the 3650L in the cage compartments. Air door and water wall inspections also took place at every station.

### **Underground Maintenance Crew (UMC)**

The UMC supported the SIGMA-V experiment in the 4850L West Lab Access Drift. Ground support installation in the East Lab Access Drift on the 4850L continues to work toward the Yates Shaft from the No. 4 Winze Wye direction with 250 feet remaining. Crews also continued cleaning up the 4850L No. 17 Ledge shop area. This area is still planned to be used as a place to maintain mobile equipment and lay down area for UMC supplies.

## **Facility Infrastructure**

### **Davis and Ross Campus Maintenance**

The Facility Infrastructure team monitored and assisted with new equipment installation. Quarterly air handling equipment and fire alarm preventive maintenance activities continue with vendors. Pure Aire oxygen sensor re-calibration activities have been scheduled for the first quarter. A hoist was installed, and a load test will be performed.

### **Surface Facility Maintenance Building and Grounds**

The SDSTA completed all seven (7) day, thirty (30) day, and annual (360) day preventative maintenance activities. Boart drill and jackleg repairs continue. Issues continue to be addressed with the Oro Hondo fan. In support of Sanford Lab’s recycling efforts, another five tons of material were collected and sent to the recycling center. Hoistroom painting continues at both Ross and Yates. Remodel efforts in the Administration Building continue—approximately eighty percent of the Occupational Nurse’s office is complete. Update of the surface water and sewer line documentation began.

### **Dewatering**

Preventative maintenance was performed on pumps and pumping apparatus. Installation of the six-inch Yates sump discharge line continues. Assembly continues for the pressure reducing manifold on the 4850L and the 3650L pump room.

### **Waste Water Treatment Plant (WWTP)**

At the end of February, the water level in the underground pool was at 5,794 feet. The net loss for the month was 1 foot. Modifications to the control system to allow specific functions to be operated from off-site are progressing, limiting the number of off-hour call outs; there was zero in February. The WWTP has not discharged any water to the sanitary sewer for over 601 days. Instead, the water is being recycled through the WWTP. The team continues to balance water sources to manage temperatures with the process.

### **Transportation and Mobile Equipment**

The team performed vehicle preventative maintenance actions and repairs to fleet and site vehicles. In addition, the team maintained underground locomotives, support equipment including air compressors, loaders and rail cars. The one-thousand-hour service of the John Deere loader 304J used at the Ross headframe was completed.

## **Electrical and Cyber Infrastructure**

The team continues to support the Ross Shaft rehabilitation project with the relocation of power cables in the shaft as the new steel is installed. The team continues to work reviewing and modifying the underground communications infrastructure to ensure each level has Voice over Internet Protocol (VoIP) and FEMCO (i.e. twisted pair) phones at each underground facility level. Fiber optic cables are being extended to the pump room levels to allow for installation of new phones. The team assisted with hoist electrical maintenance. Installation of cameras have begun at the WWTP to enhance offsite views for operators. The team assisted with hoist electrical maintenance and has begun to update the electrical circuit identification drawing for the Administration Building.

## **Engineering**

### **Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Facility (DUNE)**

A draft SDSTA requirements was submitted to the Requirements Matrix within LBNF and includes: maintaining viability of the 4850L Ross Shaft Station Excavated Rock Dump for potential future science project development, utilities interface and protection against interruption of services, handling of tramway construction debris and the management of construction activities to comply with the ongoing Yates Shaft maintenance schedule.

Bids for the Oro Hondo fan VFD replacement were received and evaluated. Options for procuring and installing the equipment were investigated. Bid selection was completed and discussions were held with chosen bidder to verify that the proposed equipment satisfies the project requirements. Submission to LBNF for approval is next step before awarding the contract. In response to the Ross Shaft Work Deck incident, the shaft engineering firm G.L. Tiley has been authorized to design a dogging system “kit” that would be attached to the work deck. Tiley is also designing and supplying a slack rope/load monitoring system that would stop the hoist should a slack rope (lack of tension) be detected. Albertson Engineering has been tasked with evaluating the structural capabilities of the Ross Headframe to sustain loads from these systems.

The new office layout drawing for the expected LBNF staff in the Ross Dry DOE leased space has been completed, however, renovation work for this new office configuration has not been scheduled.

### **LUX-ZEPLIN (LZ)**

Renovation of the Davis Lab is underway. Job Hazard Analysis (JHA) planning set the pace early for progress to address high risk activities that were front loaded in the schedule. Work activities included completing demolition of electrical, ducting, fire suppression, controls, removal of the hoist and monorails, and start of electrical and ducting installation.

The electrical install for the Surface Lab hoists were completed. Load testing and certification of the systems is in planning. Installation of the cleanroom nitrogen purge system is underway along with the closed loop cooling system for the radon reduction system supporting the lab.

A Production Readiness Review (PRR) for the Liquid Xenon Transfer Lines, PMT Standpipe and Fluid Systems was held in February. The overall outcome of the PRR was that additional work was required prior to completing the procurement process. A structured plan was created to move the covered systems forward towards procurement including technical and budgetary discussions.

Proposals were received on both the LN cryocooler and the mating LN storage tank. Both proposals were above baseline. The collaboration reviewed procurement options and decided to minimize acceptance testing at the manufacturer’s site in the Netherlands. Both purchase orders were placed.

SDSTA assumed design responsibility for the structural members of the in-line radon removal system developed at the University of Michigan. Solid models have been created and seismic calculations performed. The design is awaiting drafting resource for completion.

### **SURF Infrastructure and Other Experiment Support**

The team supported the SIGMA-V review and site visit to discuss Phase 2 planning effort. SIGMA-V has delivered their experiment requirements for Sanford Lab to prepare infrastructure and logistical support in

preparation for mobilization and construction of the experiment instrumentation. Engineering is providing drawings and guidance to SDSTA electricians for installing the necessary infrastructure.

As part of a program to update Sanford Lab as-built infrastructure conditions, work began on updates to the surface water distribution drawings and the electrical conditions for the Yates Administration Building.

The deep well pump replacement project received approximating 1500 feet of piping that will be changed out during the project. This piping was delivered and staged such that it can be moved underground quickly following indications of pump failure to cut down the lead time on replacement.

## **Environment, Safety and Health**

**Environmental Compliance**—The South Dakota Department of Environment and Natural Resources (SD-DENR) was contacted concerning Tier II Reporting and how to report chemicals that reside on Sanford Lab’s property, which is leased to other entities (the City of Lead). In this case, 1,000 gallons of diesel and 1,000 gallons of gasoline reside on Sanford Lab property (due the acquisition of the Ellison property). Sanford Lab was directed to report the City of Lead’s petroleum products.

**Water**—Waste Water Discharge Summary through March 2, 2018:

- *Total water discharged through outfall 001 since June 5, 2008: 6,232,301,411 gallons*
- *Total Underground water treated since June 5, 2008: 3,719,308,056 gallons*
- *Total Tailing water treated since June 5, 2008: 2,695,780,056 gallons*
- *Total water discharged to sewer since June 5, 2008: 105,071,348 gallons*

The January DMR was prepared, loaded into NetDMR and signed. There were no violations.

The draft National Pollution Discharge Elimination System (NPDES) Permit from the DENR has not been received.

NPDES permit Compliance training was provided to Sanford Laboratory’s WWTP operators.

**Air**—Data continues to be collected for stationary emissions sources.

## **Solid Waste**

Various wastes/recycle items have been collected, sorted, and taken to the recycle center.

## **LBNF/DUNE/LZ/CASPAR/MJD**

A memorandum was prepared outlining the management of lead and asbestos waste that will be generated during Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE) equipment refurbishment/repairs.

## **Environmental Support Tasks**

The Machine Shop Environmental Assessment Phase 2 sampling was completed.

Edits were submitted to Split Rock Studios for the draft Mickelson Trail interpretative sign.

A JHA was prepared for the 4850L (No. 9 Ledge) asbestos pipe and reviewed with underground infrastructure technicians and Anderson Environmental.

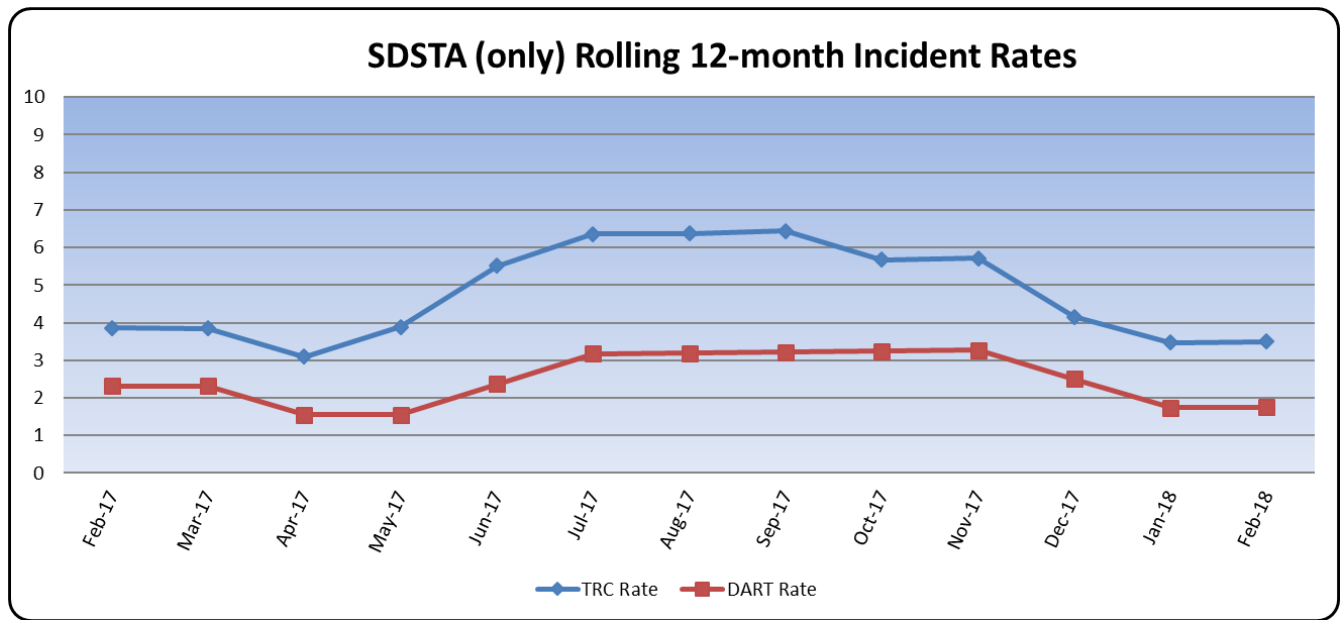
A JHA was prepared for the remediation of asbestos at the Ross Dry DOE leased space office. The asbestos removal was completed without incident and the area was cleared for occupancy.

Planning continues to move the Homestake core from the Machine Shop to the Construction Drill Bit Shop area this summer.

Annual Hazardous Waste Operations and Emergency Response (HAZWOPER) training was provided to SDSTA’s Spill Prevention Control and Counter Measures (SPCC) Team and to various members of the Emergency Response Team (ERT).

The SPCC plan is being reviewed by a third-party engineering firm in order to be compliant with 40 CFR 112.7 (40 Code of Federal Regulations, Section 112.7).

## Health and Safety Summary



**TRC (Total Recordable Case)** = more than first aid treatment was given.

**DART (Days Away Restricted Transferred)** = more than first aid treatment was given AND restrictions were job-limiting, or the employee could not work (subset of a TRC). \*Rates are subject to change

### February 2018 DARTS/TRC:

- No events to report

### February 2018 First Aid Cases:

- Feb 28: Contractor cut finger: band aid required

### February 2018 Category 1 or 2 Events:

- No events to report

### February 2018 Category 3 Events:

- No events to report

### February 2018 Items of Interest:

1. Observations and notes were taken at Ross Hoist building during February emergency evacuation drill
2. Asbestos removal underway at Ross Dry Building
3. Hosted SDSM&T mine rescue team advisor to ERT training
4. Hosted Fermilab personnel on review of shaft work on February 14
5. Hosted Fermilab ESH personnel for review of Hoisting and Rigging procedures, February 20-22
6. Presented Ross Incident close-out slides at:
  - a. SDSTA All Hands Meeting
  - b. Fermilab and to DOE personnel
  - c. Keiwit Alberici Joint Venture (KAJV) contractor
7. Finalized Functional Job Analysis for ERT personnel
8. Completed Annual Level Inspection of the 1700L
9. Conducted a walk-through of the Tramway



## Education and Outreach (E&O)

### Cultural Activities

The Cultural Advisory Committee held their annual review on February 28. The Committee was impressed with the excellent progress made in increasing cultural awareness among SDSTA staff. The Committee viewed and accepted the new cultural awareness video, which has now been added to the new Bridge learning management system for staff training.

Cultural and Diversity Coordinator KC Russell continues to work with Starbase. In February, he aided in establishing Starbase academies at the Pierre Indian Learning Center.

### K-12 Education and Outreach

**Curriculum units.** Table 1 lists the schools, grades and number of students who completed units in February. There was a lot of movement of kits both in and out last month.

**Table 1. Curriculum Units**

Unit	School	City	Grade or Course (high school)	Total No. of students
'Between a Rock and a Dark Place'	Homeschool Group	Belle Fourche	K-2	6
	Homeschool Group	Rapid City	K-2	1
	Homeschool Group	Sturgis	K-2	7
	Hot Springs	Hot Springs	2	64
'Creature Features'	Corral Drive	Rapid City	K	25
'Exploring the Unseen'			5	89
'May the Force Be With You'	Hills-Beaver Creek	Beaver Creek, MN	5	8
	Whittier Middle	Sioux Falls	4	8
'Perplexing Puddles'	Winner High	Winner	8	100
'We are Made of Starstuff'	Winner High	Winner	Biology	54
	Bridgewater-Emery	Emery	Chemistry	36
	Garretson	Garretson	Chemistry	25
	Sturgis Williams	Sturgis	Gifted program	13
	<b>8 schools</b>		<b>12 teachers</b>	<b>436 students</b>

E&O staff have been supporting teachers in the classroom as they utilize our units. The partnerships also give E&O staff an opportunity to observe some of the lessons in action, and in some cases to give presentations to the students at the end of the unit. In February, Science Education Specialist Kari Webb visited Whittier Middle School to support the teacher and observe a class in action.

The new high school unit, *It's Electric*, was introduced at the South Dakota Science Teachers Conference in early February and is already being pilot tested at Lead-Deadwood High School. The unit utilizes the Deep Underground Neutrino Experiment (DUNE) and its liquid-argon detectors to facilitate student learning about electromagnetic interactions. Science Education Specialist Becky Bundy is taking the lead on developing the unit.

A new K-2 unit is also under development this spring. This unit focuses on properties of materials and features an engineering challenge related to the strength of the ropes used for the hoists. The development of this unit is being led by Science Education Specialist Julie Dahl. We hope to pilot this later in the spring.

The online professional development course is near completion. External evaluation is underway for this course as well as the 2017 summer professional development workshop at BHSU.

Sanford Lab staff gave presentations at teacher professional development days in Belle Fourche and Spearfish.

**Classroom presentations.** Classroom presentations for February are listed in Table 2.

**Field trips to Sanford Lab.** There were no field trips scheduled for February. A dozen dates have been set for this spring and are filling rapidly.

**Other K-12 activities.** Deputy Director of Education and Outreach Peggy Norris represented Sanford Lab with a table at the annual Sturgis Brown High School career fair. Students from Douglas, Lead-Deadwood and Newell also attended this large event.

Becky and Peggy attended and presented at the annual conference of South Dakota Science Teachers in Huron.

**Table 2. Classroom or Assembly Presentations**

School/City	Presenter	Grade(s)	No. of presentations	Total No. of students
Hot Springs Elementary / Hot Springs	JD	K-5	6	319
Axtell Park / Sioux Falls	KW	7-10	2	70
Todd County Middle / Mission	PN	8	6	85
Mitchell High / Mitchell	JMc	9	5	129
<b>4 schools</b>			<b>19 programs</b>	<b>603 students</b>

*JD = Julie Dahl JMc = John McEnelly PN = Peggy Norris KW = Kari Webb*

### Undergraduate

Interviews for the 2018 Davis-Bahcall Scholars took place in mid-February and eight students were offered places in the program. All have confirmed.

Interviews are in progress for Dave Bozied and Chris Bauer internships for Summer 2018.

### Other Activities

A small grant application was submitted to the South Dakota Space Grant Consortium for funding to support the new high school unit, including stipends for teachers who pilot the unit.

**Table 3. Total Impact – February 2018**

Group	Students					Educators			Community		
	K-5	6-8	9-12	Undergrad	Graduate	K-12 Educator	Univ. Faculty/Staff	Informal	Parents	Sanford Lab Staff	General Public
<b>FIELD TRIPS</b>											
<b>Subtotal</b>	0	0	0	0	0	0	0	0	0	0	0
<b>CURRICULUM UNITS COMPLETED (from Table 1)</b>											
<b>Subtotal</b>	208	113	115	0	0	9	0	0	3	0	0
<b>ASSEMBLY PROGRAMS COMPLETED (from Table 2)</b>											
<b>Subtotal</b>	319	121	163	0	0	0	0	0	0	0	0
<b>OTHER</b>											
<b>Inservice – Belle Fourche</b>	0	0	0	0	0	25	0	0	0	0	0
<b>Inservice – Spearfish</b>	0	0	0	0	0	41	0	0	0	0	0
<b>Whittier Presentation</b>	0	26	0	0	0	2	0	0	0	0	0
<b>Sturgis Career Fair</b>	0	0	40	1	0	1	1	0	0	0	0
<b>Science Teachers Conference (x2)</b>	0	0	0	0	0	10	1	2	0	0	0
<b>Online PD course</b>	0	0	0	0	0	28	0	1	0	0	0
<b>Subtotal</b>	0	26	40	1	0	107	2	3	0	0	0
<b>Grand Total</b>	<b>527</b>	<b>260</b>	<b>318</b>	<b>1</b>	<b>0</b>	<b>116</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>Grand Total: 1,230 students, educators and members of the general public</b>											

## **Communications**

- Working with the ESH Department to update the crisis communications plan
- Developing an internal communications plan
- Continue to work with Fermilab to develop a site visit form for media
- Continue to attend regular communications meetings with Fermilab and LBNF/DUNE
- Raised funds/lined up sponsors for Deep Talks
- Confirmed keynote speaker for Neutrino Day (Ariel Waldmen)

## **Community Outreach/Media/Site Visits/Presentations/tours**

- Midwest Shrine Association (Connie Walter), February 2

## **Upcoming Community Outreach/Media/Site Visits/Presentations/tours**

- Deep Talks: Pi Day March 14
- Rapid City Community Leaders Update, Sanford Lab, March 6
- Box Elder Job Corp career field trip, March 7
- Xploration Outer Space (media), March
- TEDx Talk (Jaret Heise), University of South Dakota, March
- Mining History Conference (Mike Headley), June 8
- Neutrino Day X (celebrating its 10<sup>th</sup> Anniversary), Sanford Lab/downtown Lead, July 14
- SD Department of Corrections tour, September 2018
- Interactions Collaboration meeting at Sanford Lab, October 2018
- Interactions Photowalk date TBD

## **Video, Web, Graphics**

- Neutrino Day logo has been created by Sandbox Studios
- Promotional materials are being created for Deep Talks, Neutrino Day and other events
- Final version of the Cultural Awareness Video was accepted by the Cultural Advisory Committee
- Albums in the Sanford Lab Photo Gallery may be viewed at: <http://pics.sanfordlab.org>
- Ongoing: Stories for Deep Thoughts; updates to the website; general web maintenance; assist media, science collaborations and educational institutions with photographic and information needs

The February Communications Photos are included as Appendix A.

## **News coverage**

Note: The Rapid City Journal and Black Hills Pioneer are rerunning Deep Thoughts stories weekly.

- [Renovations begin on an underground facility that is investigating the nature of dark matter](#), Building Design and Construction, Feb. 7, 2018
- [Construction begins on project to find dark matter with 10 tons of liquid Xenon](#). Popular Mechanics, Feb. 8, 2018
- [Particle interactions on Titan support the search for new physics discoveries](#), Phys.org, Feb. 9, 2018
- [House passes bill boosting funding to Illinois national laboratories](#), Northern Public Radio, Feb. 13, 2018
- [Lab response team ready for underground emergencies](#), Rapid City Journal, Feb. 15, 2018

## Contracts Status

### Department of Energy (DOE) subcontracts to SDSTA:

- Ross Shaft Rehabilitation (Fermilab): Supplemental agreements for investigation-related costs and remaining change order tasks are expected to be issued in March.
- LBNF Professional Staff Services (Fermilab): SDSTA received a revision to purchase order No. 641665, adding incremental funding for LBNF engineering support through June 2018.
- SURF Services (Fermilab): SDSTA received Modification No. 12 to Subcontract No. 629670, adding incremental funding for SURF operations through March 2018.
- LUX-ZEPLIN (LZ) Project, Lawrence Berkeley National Lab (LBNL): SDSTA received Modification No. 11 to Subcontract No. 7255146, adding funds to procure components for a cryogenic system.
- LUX-ZEPLIN (LZ) Construction, LBNL: SDSTA expects to receive Modification No. 3 to Subcontract No. 7251116, increasing the estimated cost for construction and allocating funds.
- SIGMA-V, LBNL: SDSTA received Modification No. 1 to Subcontract No. 7371823 allocating remaining estimated costs.

**Other subcontracts to SDSTA:** No changes.

### Summary of Contracts Awarded by SDSTA in February:

Contract No.	Contractor/Vendor	Type	Project	Notes or Changes
2013-39	G.L. Tiley & Associates	CO#11	Ross Shaft investigation and work deck analysis	adds funds, scope
2013-39	G.L. Tiley & Associates	CO#12	Ross Shaft guide alignment study	adds funds, scope
2015-21	Albertson Engineering	CO#6	Ross Shaft incident investigation	adds funds, scope
2015-21	Albertson Engineering	CO#7	Ross Shaft 3D modeling	adds funds, scope
2017-36	Horsley Specialties, Inc.	CO#2	Asbestos Remediation Projects	adds funds, scope
2013-39	G.L. Tiley & Associates	CO#13	Ross Shaft dogging system design	adds funds, scope
2017-26	CVD Construction Inc.	CO#4	General Services	adds funds
2017-13	Professional Mapping & Surveying	CO#3	General Services - Mapping & Surveying	adds funds
2015-18	North Central Supply, Inc.	CO#2	Doors, Locks, Gates, Hardware & Controls Service Agreement	adds funds
2018-06	RW Henn LLC	New	Consultant, Semi-Annual Underground Access Review	new contract
2017-36	Horsley Specialties, Inc.	CO#3	Asbestos Remediation Projects	adds funds, scope
2015-17	Butler Cat	CO#2	Annual Inspections of generators & on call services	adds funds
2017-03	Anderson Environmental	CO#4	Asbestos Remediation Projects	adds funds, scope
2017-37	Hydro Resources	CO#3	Deep Well Pump	adds funds for domestic pipe, excise tax
2015-21	Albertson Engineering	CO#8	Ross Shaft guard rail design	adds funds, scope

**Purchase Orders (POs):** 131 POs were issued in February totaling **\$394,303**.

**Warehouse Inventory:** Warehouse inventory on February 28, 2018 totaled **\$179,000**.

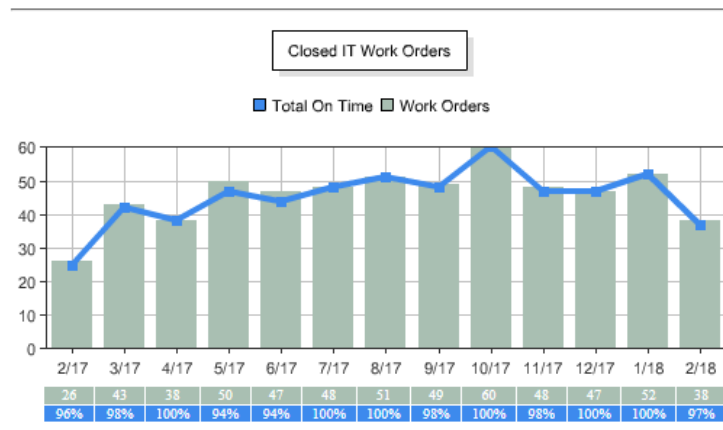
## Information Technology

### Projects

- Design work continues for the online account request form as enhancement requests from other departments are received. In addition, custom programming was added to assist the ESH department with populating the new Bridge learning management system user accounts.
- IT procured two flat panel TVs for training and meeting rooms.
- IT assisted with office moves for both Fermilab and SDSTA personnel, running cable, phones and data drops.
- IT met with SIGMA-V researchers to discuss access to their recently broadened experiment.
- IT configured the newly procured phones and Polycom for the Fermilab offices in the Ross Dry DOE leased space.
- IT assisted with LZ remodel efforts at the 4850L.
- The IT Office launched a weekly training session with a vendor to further sharpen its office's overall skill set and ensure all systems are as secure as possible.
- IT procured and configured equipment for new hires for engineering and ERT.
- Firewall modifications were made by the Network Administrator to accommodate the new Bridge learning management system.
- IT continues to build documentation in the IT Technical Help Desk weblogs on various topics.

### Daily Activities

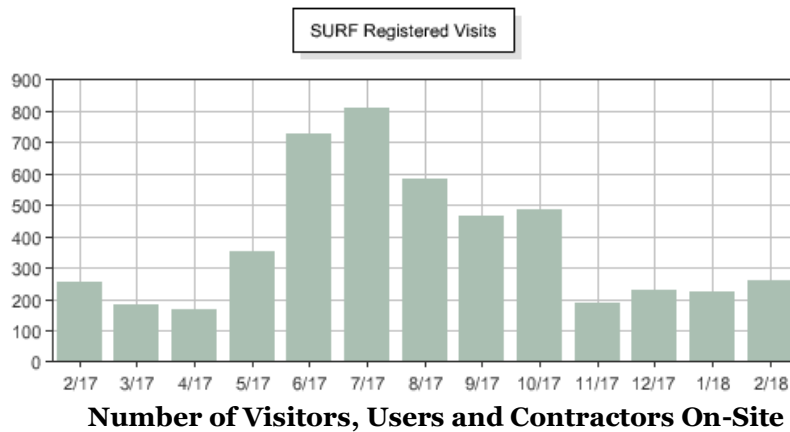
In addition to work order activity, IT monitors and reviews wireless and general network activity and counts, network hardware readiness, VPN Remote Access logs, Firewall logs, and establishes new VPN and Docushare accounts for individuals and user groups, as requested.



### Help Desk Activities (measured in Work Orders)

## **February Events**

In February, a total of 262 Visitors, Contractors and Users visited the lab; an increase of 38 individuals from last month. The February Visitor Log Report was submitted electronically to the SD Fusion Center/Homeland Security utilizing the database reporting tool.



Logistical and administrative support were provided for the following events and meetings in February:

- Feb 16: SIGMA-V and DOE Office of Energy Efficiency and Renewable Energy Meeting
- Feb 22: SDSTA All Hands Meeting
- Feb 26-Mar 2: Underground Access Workshop
- Feb 28: Cultural Advisory Committee Meeting
- Mar 1: SD AEP HAZWOPER Training; Scoping Memorandum of Understanding Discussion

Planning continues for upcoming meetings and events through March 2018:

- Mar 6: Rapid City Community Leaders Update and Underground Tour
- Mar 7: : DOE IPR Subcommittee Site Visit to SURF; KAJV Cost & Schedule Workshop; Box Elder Job Corp Site Visit and Surface Tour
- Mar 8: Open Enrollment Benefits Meeting
- Mar 9: ERT SD National Guard 82nd CST Meeting
- Mar 13-15: SURF Operational Safety Review
- Mar 13: Black Hills Area Community Foundation Underground Tour and Meeting
- Mar 21: Robotics Competition
- Mar 20: SENSEI Meeting and Underground Tour
- Mar 28: TSP Underground Tour
- Mar 29: SDSTA Board of Directors Meeting

Monthly Researcher hours were tracked, and Science training records entered; packing slips were matched to invoices as well as Accounts Payable assistance; purchase orders were invoiced and closed in ManagerPlus; digital display information was updated; monthly office supply order received and sorted; telephone lists were updated and distributed; copyediting was completed for various departments. Also, the monthly site access report was reviewed to verify normal activity at the Warehouse, Server Room and Surface Lab.

Several months ago, the SDSTA and Fermilab Global Services processes for ID badging were reviewed to identify areas of differences and opportunities to align for the LBNF/DUNE project. The new process to badge LBNF contractors is on hold until the legibility of scanned documents using the Fermilab scanner (currently installed at Sanford Lab) is examined and improved.

The planning committee continues to meet and work on logistics for the July 14 Neutrino Day X event—celebrating its 10<sup>th</sup> Anniversary.

February monthly reports for Fermilab and SDSTA were compiled, edited and distributed. Preparation began for the upcoming SDSTA board meeting scheduled on March 29. The redesigned SDSTA Policies and Procedures Manual and Employee Handbook will be distributed at the March board meeting.

## **Finance and Human Resources**

Included in the Financial Report are the following:

- SDSTA SURF Services FY2018 SPA Curve as of February 2018 (included as Appendix B)
- SDSTA Staffing Plan by Funding Source as of February 2018 (included as Appendix C)
- Financial Summary (included as Appendix D)
  - Balance Sheet as of February 2018
  - Comprehensive Statement of Income February 2018
  - Comparative Balance Sheet – February 2018 vs. February 2017
  - Comparative Statement of Income – February 2018 vs. February 2017
  - Available Resources as of February 2018
  - Operating Budget Summary
  - CAPEX Budget Summary
  - February 2018 and YTD CAPEX Budget – actual vs. budget

### **SDSTA SURF Services FY2018 Scheduled Performed Actual (SPA) Curve**

This graph represents an analysis of the SURF Services subcontract No. 629760 scheduled funding compared to actual. The report shows funding through February 2018 along with information related to Funded-to-Date dollars, Scheduled dollars, Performed dollars and Actual dollars by month. This subcontract will be continued for support from October 2016 through June 2018 until an additional five year contract can be negotiated with Fermilab. Actual dollars represent actual invoices for the months sent to Fermi Research Alliance LLC for reimbursement. For February, the invoices totaled \$1,205,086 which is higher than the anticipated reimbursements of \$1,121,123 by \$83,963. Cumulative expenses are at \$19,822,906 which is lower than the budgeted \$20,478,718 by \$655,812.

### **Balance Sheet Items**

Cash in Local Checking—Total on hand at February 28, 2018 was \$1,095,699; down from last month by \$301,918. Funds on hand were necessary to pay employee medical/life/vision insurance due March 1. The balance also contains funds received from federal contracts late in the month on open accounts receivable.

Cash with State Treasurer—Total balance of \$12,534,541. The balance is unchanged from last month.

Billed Accounts Receivable (A/R)—Billed A/R represents any open invoices based on contracts from sources such as LBNL, Fermilab, other smaller contracts from other universities and Barrick-Homestake Mining Company. Total is at \$1,551,594; up from last month by \$54,261. Included in the balance are open invoices to LBNL for \$420,077; representing invoices for the Large Underground Xenon (LUX) subcontract and LUX-ZEPLIN (LZ) engineering support and new LZ Operations and Construction contracts. Additional open invoices include \$1,114,244 from Fermilab primarily from the SURF Services subcontract and the Ross Shaft Rehabilitation work. Additionally, there are open receivables for \$8,041 from small university subcontracts, Barrick/Homestake for \$7,445, and \$1,787 from Xilinx, Inc., the commercial organization that has established an experiment located near the the Davis Campus at the 4850L.

Unbilled A/R—Balance at \$445,029. Unbilled A/R represents items that have not been billed on various contracts. The payroll from pay end date February 23, 2018 (paid on March 2) was not invoiced in February on all contracts. This amount will be invoiced in March. February's balance has decreased by \$19,195.

Other A/R—Current balance of \$93,807. This balance represents any Interest Receivable and Miscellaneous Accounts Receivable. The balance increased by \$10,445, which includes the interest accrual for February as well as activity for noncontract receivables.

Inventory/Supplies—Balance at \$2,416,621 for fixed assets being stored but not in service. The balance decreased by \$28,782 due to scrapping two tsurumi pumps that were stored but not being used as well as taking out of service the LUX surface lab water tank and a generator.

Inventory Warehouse/Personal Protective Equipment (PPE)—Current balance of \$31,155. This balance represents the warehouse inventory that was purchased by SDSTA prior to federal funding. The balance is lower from the previous month by \$149 for inventory usage.

Other Current Assets—This listing on the balance sheet represents the balances of both prepaid insurance—\$633,309 and prepaid other—\$51,183. Total balance of \$684,492 is down from last month by \$9,968. This decrease represents the prepayment of additional general liability insurance net of the monthly insurance expense and the expensing of various prepaid items in February.

Fixed Assets—Total of \$83,422,398 (net of depreciation through February 2018). Fixed Assets decreased by \$62,260 as the LUX surface lab water tank and a portable generator were taken out of service as well as a tsurumi pump in the Yates sump that failed. Along with depreciation for the month, fixed assets decreased by \$188,792.

Work in Progress—This balance represents the current fiscal year progress being made using Sanford/SDSTA Funds to support the budgeted projects on the CAPEX budget less any items that are being capitalized within the Fixed Asset designation or Xenon Purchased. Current balance has increased by \$2,892 to \$1,530,780.

Pension Deferred Outflows—This designation on our Balance Sheet reflects the requirements related to the Governmental Accounting Standards Board (GASB) No. 68 and No. 71 in reference to pensions. SDSTA is required to report the net pension asset or liability on the face of our financials along with related deferred inflows and outflows. The State's retirement system is no longer fully funded. The actuarially accrued liability of the fund is more than the assets of the fund. Therefore, for fiscal year 2017 we have a Net Pension Liability rather than Net Pension Asset. The balance Pension Deferred Outflows shown as a noncurrent asset is \$4,174,730 created by fiscal year 2017 final entries. GASB No. 68 requires that the amount reported as deferred outflows and inflows as they relate to the net difference between the projected and actual earnings on pension plan investments should be netted for reporting purposes. The recorded amounts have been summarized as Pension Deferred Outflows. This balance is unchanged from the previous statement. It will be updated at the end of the fiscal year.

Xenon Purchased—Balance of \$5,040,356 represents the value of xenon purchased for future use by experiments. The xenon inventory is considered a non-current asset and includes all the purchases through fiscal year end 2017. The balance has not changed from the previous statement.

Total Assets—Total of \$113,021,203. This balance has decreased from last month by \$481,207; which represents the net activity as listed above.

Accounts Payable—Our Total Accounts Payable balance of \$832,690 at the end of the month compared to last month has decreased by \$275,649. This decrease is primarily due to no longer owing for the \$330,000 shipment of xenon.

Accrued Payroll Liabilities—Current balance of \$1,359,084 has increased slightly by \$5,792 from last month. This represents the net change between earned vacation and vacation taken and other changes in employee benefit related liabilities. Also included is the payroll accrual from February 23 paid out in March.

Long Term Xenon Notes Payable—This designation represents \$2M of funding received from the South Dakota Community Foundation (SDCF) as well as an additional \$1M received in January 2017 from the South Dakota State University Foundation (SDSUF) and \$1M received in February 2017 from the University of South Dakota Foundation (USDF). The \$4,000,000 balance is designated for purchasing xenon for experiment use at Sanford Lab.

Pension Deferred Inflows—This classification reflects the requirements of GASB No. 68 and No. 71, as discussed earlier. The State's retirement system is no longer fully funded. The actuarially accrued liability of the fund is more than the assets of the fund. Therefore, for fiscal year 2017 we have a Net Pension Liability rather than a Net Pension Asset. The balance of \$1,698,193 represents our portion of the Net Pension Liability as it relates to the pension plan with the South Dakota Retirement System.

Total Liabilities—Total Liabilities decreased by \$269,857 (from \$8,159,824 to \$7,889,967), which reflects the net activity listed above.

Total Equity—Decrease to \$105,131,236 from the previous month \$105,342,586.

Total Liabilities & Equity—Decrease to \$113,021,203 from the previous month of \$113,502,410.



## Statement of Income Items

On the SDSTA's Statement of Income, the DOE Subcontracts are consolidated into one line on the report. Included in this amount are various subcontracts from LBNL, Fermi National Accelerator Laboratory (FNAL), as well as a small contract for the MAJORANA project with ORNL. Total revenue for this fiscal year through February 2018 is \$13,809,336 (increase from January of 1,784,948).

National Science Foundation (NSF)/National Aeronautics & Space Administration (NASA) Subcontracts— Total revenue through February 2018 from this funding is \$15,276 (increase from January of \$2,049). The balance represents revenue from the SDSM&T for CASPAR.

State Revenue—Year-to-date State Revenue equals \$1,227. This was received from a small subcontract from BHSU.

Contributions & Donations—The Great Plains Education Foundation contributed \$125,000 in July for the education efforts at the SDSTA.

Interest income recorded for the current fiscal year on State Funds is at \$84,677. This represents interest accruing at 1% on the cash held by the state on behalf of the SDSTA.

Direct Costs are then listed on the Statement of Income. The classifications for Unallowable Costs and Indirect Costs are listed as well on this report to follow the federal contracting format. Direct Costs/Unallowable Costs are at \$8,989,305 for the current fiscal year. Indirect Costs including fringe benefits are at \$5,909,398. Costs are higher than revenue by \$862,039. Yet, the unbilled payroll from pay end date February 23, 2018 of \$445,029 has not been reflected in revenue. As explained earlier this will be accomplished in March. Other Income is at \$323,703 which represents miscellaneous income received from Xilinx and small amounts from Barrick. Net income through February after Reclass Increase in Net Assets is at \$754,189.

## Comparative Balance Sheet

Significant differences include Total in Local Checking which is higher by \$527,224 primarily due to receiving funds from contracts in Accounts Receivable late in the month. Total Cash with State Treasurer is lower by \$1,129,754 from this time last year as funds were expended over the 12-month period. Other notable differences exist for Billed A/R which has decreased by \$1,122,800 due to payments being received on various contracts as well as no longer having the design contract with Arup. Work in Process has decreased by \$1,803,668 due to fewer CAPEX projects during the current fiscal year compared to last year. Pension Deferred Outflows has decreased by \$2,113,124 due to no longer having a Net Pension Asset (discussed earlier). Xenon Purchased has increased by \$3,433,693 for the purchases made during fiscal year 2017. In summary, Total Assets have decreased by \$2,343,519. Total Current Liabilities have decreased by \$304,156 from this time last year. This decrease is primarily due to currently owing less to vendors such as TruNorth Steel and not owing Arup for design services. Total Other Liabilities have decreased by \$1,754,744 due to Pension Deferred Inflows that have decreased showing the Net Pension Liability for fiscal year 2017 year end. Additionally, the capital lease was reduced to zero with the finalization of the pump lease. Total Equity has decreased slightly by \$284,619 from this time last year. In summary, Total Liabilities & Equity have decreased by \$2,343,519. Restricted Funds are lower than this same time last year, but Investment in General Fixed Assets as well as Unrestricted Funds are both higher when comparing the two time frames.

## Comparative Profit/Loss

Total Revenue for year-to-date February 2018 compared to year-to-date February 2017 has decreased by \$4,159,176. DOE subcontract revenue has decreased by 23.1% due to no longer having the design contract with Arup. Direct Costs and Indirect Costs for year-to-date February 2018 compared to this time last year show a combined decrease of \$4,519,484 (23.3% decrease). This is primarily due to incurring less expenses this fiscal year for the Arup design contracts. The contracts for design with Arup have been transferred to Fermilab. Indirect Costs are also lower by \$546,160 than last year at this same time. Other Income is higher for the comparative time periods primarily due to receiving funding for the Davis Bahcall education program and receiving funding from Homestake Mining Company for one half of the expenses for asbestos abatement on the recently purchased Ellison Hill property. Net Income/Loss for the comparative time periods shows an increase in income of \$618,003.

## **Available Resources**

This report reflects our available cash/accounts receivable after noting the restricted cash balances in the Indemnification and Mine Closure accounts, and funds held for Experiments—xenon purchase, experiment infrastructure upgrades and interest for investors. This report has been restructured to better reflect our available cash and (short term) accounts receivable as compared to our current liabilities including accrued payroll liabilities. It is important to include receiveables as many of the items in accounts payable are invoiced on our current federal contracts. \$1,765,795 is available after noting our current obligations. It is also important to note that our accrued payroll liabilities include accrued vacation and sick pay. Therefore, the current report better reflects our available resources compared to current obligations.

## **Operating Budget Analysis**

This report is separated into three sections: SDSTA-funded activities, Federal & State funded activities and Indirect expenses that benefit various activities. Total operating expenses are under budget for February 2018 by \$18,183. Yet, the SURF Operations Services budget is over by \$89,109 due to the purchase of pump column pipe. This is just a timing issue. Year-to-date figures are under budget by \$828,101. Indirect Charges Other are over budget as this category includes depreciation expense (no actual cash outlay).

## **Capital Expenditure Budget Analysis**

Our current capital expenditure projects have been condensed and are listed from CAP2014-01—CAP2017-02 with various breaks in the numbering sequence. Total project dollars have been reduced to \$4,677,160. All projects apart from the LZ Surface & Facility Upgrades and LZ Xenon Gas Purchase are funded by the balance of Sanford Funds as directed by the Fifth and Sixth Amendments to the Homestake Gift Agreement, a small amount of scrap metal funding, and from private fund raising activities. Funding for the LZ Surface & Facility Upgrades and LZ Xenon Gas Purchase was secured from the GOED granting \$6,000,000 over three years. Additionally, loan documents have been executed for \$2,000,000 each from the South Dakota Community Foundation, the South Dakota State University Foundation, and the University of South Dakota Foundation for xenon purchases. In February we spent \$2,892 on our CAPEX projects which is slightly lower than the budgeted \$3,625. Year-to-date we have spent \$1,403,130 on these projects.

## **Human Resources**

There are currently 118 full time employees and 11 temporary staff, primarily Emergency Response Team members. Paul ‘Woody’ Hover was selected to fill the ERT Lead/Site Safety Specialist position. He began employment on February 26. The Senior Project Engineering position has been filled. Todd Hubbard has been selected for this position and will begin employment in late March. Brooke Anderson was selected for the Technical Coordinator Support position. Her previous position as Administrative Assistant will be backfilled.

## **APPENDIX**

Page intentionally  
blank

## Communications Department Photo Appendix A



*Top: These are the sheave wheels for the Ross Cage and counter weight.*

*Center left: Poet Lawrence Diggs speaks about the connection between art in science at the February Deep Talks: Deep Poet Society.*

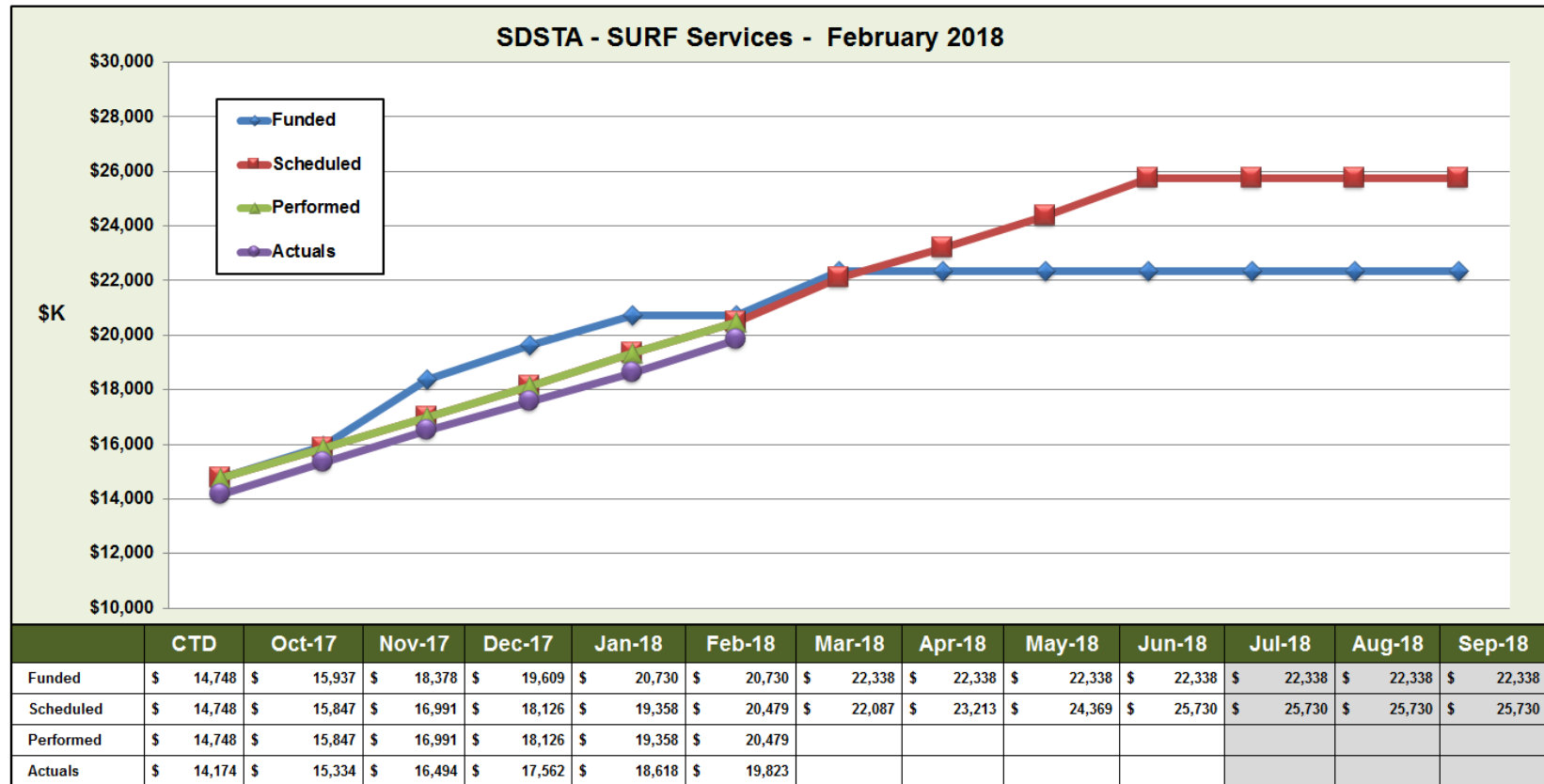
*Center right: Pat Urbaniak leads the Emergency Response Team (ERT) through a low drift. The team was practicing pushing a breathing apparatus through a tight area.*

*Bottom: ERT member Derek Lucero performs an air test during an exercise on the 4100 Level.*



Page intentionally  
blank

## Finance & HR Department Appendix B



**DOE SDSTA FY 2018 SPA Curve  
February 2018**

Page intentionally  
blank



## Finance & HR Department Appendix C

*FTE Report - All Fund Sources - FY18 - February 2018*

*Revised: March 7, 2018*

Source/WBS	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
<b>SDSTA</b>	<b>0.70</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>
Administration	0.70	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>DOE SURF SERVICES</b>	<b>73.15</b>	<b>73.15</b>	<b>73.15</b>	<b>73.65</b>	<b>73.65</b>	<b>74.65</b>	<b>75.65</b>	<b>75.65</b>	<b>75.65</b>	<b>75.65</b>	<b>75.65</b>	<b>75.65</b>
Administration	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
ESH	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40
Engineering	3.55	3.55	3.55	3.55	3.55	3.55	4.55	4.55	4.55	4.55	4.55	4.55
Science	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15
Operations												
Management	6.00	6.00	6.00	6.00	6.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Ross Shaft	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Yates Shaft	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Hoist Operations	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Hoist Maintenance	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
Ventilation	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Underground Maintenance	7.50	7.50	7.50	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Water Treatment	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
Dewatering	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Electrical Power Distribution	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
Cyberinfrastructure	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Buildings and Grounds	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70
Equipment Maintenance	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Davis Campus	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<b>ROSS SHAFT (DOE)</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>	<b>27.00</b>
<b>LZ Project</b>	<b>4.00</b>	<b>4.00</b>	<b>4.00</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>	<b>4.25</b>
<b>LZ Operations</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>
<b>LBNF / DUNE</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>	<b>1.95</b>
<b>INDIRECT</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>
<b>Grand Total</b>	<b>123.10</b>	<b>122.60</b>	<b>122.60</b>	<b>123.35</b>	<b>123.35</b>	<b>124.35</b>	<b>125.35</b>	<b>125.35</b>	<b>125.35</b>	<b>125.35</b>	<b>125.35</b>	<b>125.35</b>

### SDSTA Staffing Plan by Funding Source February 2018

Page intentionally  
blank

# Financial Summaries Appendix D

REPORT DATE 03/08/18

SOUTH DAKOTA SCIENCE & TECHNOLOGY

15:37

PAGE 0001

DIVISION: ALL

BALANCE SHEET

## ASSETS

		AS OF 02/28/18
AS OF 02/28/18		
<b>CURRENT ASSETS</b>		
First Interstate Checking	\$	1,084,929.96
First Interstate Other		10,769.29
		-----
Total in Local Checking		1,095,699.25
SD Treas: Indemnification		7,500,000.00
SD Treas: Mine Closure		1,415,782.17
SD Treas: Operating		480,685.27
SD Treas: Sanford Gift #2		322,567.97
SD Treas: Experiments		2,815,505.86
		-----
Total with SD Treasurer		12,534,541.27
Billed A/R		1,551,593.70
Unbilled A/R		445,029.36
Other A/R		93,806.67
Inventory - Supplies		2,416,621.40
Inventory - Warehouse		31,154.64
Other Current Assets		684,491.92
		-----
Total Current Assets		18,852,938.21
<b>FIXED ASSETS</b>		
Land, Underground & Other		12,633,473.13
Bldgs & Infrastructure		10,079,478.68
Improvements		63,427,334.26
Computer Equipment		431,565.17
Equipment & Fixtures		10,827,646.09
Accum Depr & Amort		(13,977,099.05)
		-----
Total Fixed Assets		83,422,398.28
<b>OTHER ASSETS</b>		
Work in Process		1,530,780.25
Pension Deferred Outflows		4,174,730.00
Xenon Purchased		5,040,356.11
		-----
Total Other Assets		10,745,866.36
<b>TOTAL ASSETS</b>	<b>\$</b>	<b>113,021,202.85</b>
		=====

DIVISION: ALL

BALANCE SHEET

LIABILITIES & EQUITY

		AS OF 02/28/18
		-----
CURRENT LIABILITIES		
Accounts Payable	\$	821,193.93
Other Payables		11,495.76
		-----
Total Accounts Payable		832,689.69
Accrued Payroll Liab		1,359,084.15
		-----
Total Current Liabilities		2,191,773.84
OTHER LIABILITIES		
LT Xenon Notes Payable		4,000,000.00
Pension Deferred Inflows		1,698,193.00
		-----
Total Other Liabilities		5,698,193.00
EQUITY		
Restricted: Indemnificati		7,500,000.00
Restricted: Mine Closure		1,415,782.17
Restricted: Sanford Gift2		322,567.97
Restricted: Pension		2,476,537.00
Restricted: Experim. Int.		2,753,584.00
		-----
Total Restricted Funds		14,468,471.14
Investment in Gen FA		83,422,398.28
Unrestricted Funds		7,240,366.59
		-----
Total Equity		105,131,236.01
=====		
TOTAL LIABILITIES & EQUITY	\$	113,021,202.85
=====		

ALL

## STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/18

	YR-TO-DATE
	-----
REVENUE	
DOE Subcontracts	\$ 13,809,335.73
NSF/NASA Subcontracts	15,275.85
State Revenue	1,226.96
Contributions & Donations	125,000.00
Checking Interest	1,147.95
Interest Income	84,677.33
	-----
TOTAL REVENUE	14,036,663.82
DIRECT COSTS	
Direct Labor	4,431,603.69
ERT Labor	54,358.22
Board of Directors	5,149.79
Capital Outlay >\$5K	307,773.93
Contractual Svcs	1,656,712.25
Inventory	112,150.56
Supplies	654,734.61
Travel - Domestic	39,187.34
Travel - Foreign	10,938.08
Utilities	1,361,090.65
Other Direct Costs	125,168.82
Unallow/Unbill Costs	230,437.28
	-----
TOTAL DIRECT COSTS	8,989,305.22
INDIRECT COSTS	
Fringe Benefits	2,716,777.50
Overhead	3,192,620.19
	-----
TOTAL INDIRECT COSTS	5,909,397.69
	-----
GROSS PROFIT/LOSS ( )FROM OPERATIONS	(862,039.09)
	-----
OTHER INCOME	
Water Treatment	69,110.16
Miscellaneous Income	249,788.87
Other Operating Income	4,803.70
	-----
TOTAL OTHER INCOME	323,702.73
OTHER EXPENSES	
Loss(Gain) on Sale of FA	65,176.46
Reclass Incr Net Assets	(1,357,701.40)
	-----
TOTAL OTHER EXPENSES	(1,292,524.94)
	-----
NET INCOME/LOSS ( )	\$ ===== 754,188.58 =====

DIVISION: ALL

COMPARATIVE BALANCE SHEET

ASSETS

	AS OF 02/28/18	AS OF 02/28/17	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 1,084,929.96	\$ 551,276.20	\$ 533,653.76	96.80%
First Interstate Other	10,769.29	17,199.41	(6,430.12)	-37.39%
-----				
Total in Local Checking	1,095,699.25	568,475.61	527,223.64	92.74%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,415,782.17	1,398,522.89	17,259.28	1.23%
SD Treas: Operating	480,685.27	361,693.54	118,991.73	32.90%
SD Treas: Sanford Gift #2	322,567.97	1,039,727.97	(717,160.00)	-68.98%
SD Treas: Experiments	2,815,505.86	3,364,350.84	(548,844.98)	-16.31%
-----				
Total with SD Treasurer	12,534,541.27	13,664,295.24	(1,129,753.97)	-8.27%
Billed A/R	1,551,593.70	2,674,393.33	(1,122,799.63)	-41.98%
Unbilled A/R	445,029.36	543,240.09	(98,210.73)	-18.08%
Other A/R	93,806.67	237,193.77	(143,387.10)	-60.45%
Inventory - Supplies	2,416,621.40	2,408,322.74	8,298.66	0.34%
Inventory - Warehouse	31,154.64	34,449.62	(3,294.98)	-9.56%
Other Current Assets	684,491.92	393,304.76	291,187.16	74.04%
-----				
Total Current Assets	18,852,938.21	20,523,675.16	(1,670,736.95)	-8.14%
<b>FIXED ASSETS</b>				
Land, Underground & Other	12,633,473.13	12,398,635.03	234,838.10	1.89%
Bldgs & Infrastructure	10,079,478.68	9,122,537.68	956,941.00	10.49%
Improvements	63,427,334.26	63,074,266.88	353,067.38	0.56%
Computer Equipment	431,565.17	440,207.18	(8,642.01)	-1.96%
Equipment & Fixtures	10,827,646.09	10,580,972.55	246,673.54	2.33%
Accum Depr & Amort	(13,977,099.05)	(12,272,672.81)	(1,704,426.24)	13.89%
-----				
Total Fixed Assets	83,422,398.28	83,343,946.51	78,451.77	0.09%
<b>OTHER ASSETS</b>				
Work in Process	1,530,780.25	3,334,448.33	(1,803,668.08)	-54.09%
Equipment - Capital Lease	-	268,134.61	(268,134.61)	-100.00%
Pension Deferred Outflows	4,174,730.00	6,287,854.00	(2,113,124.00)	-33.61%
Xenon Purchased	5,040,356.11	1,606,663.11	3,433,693.00	213.72%
-----				
Total Other Assets	10,745,866.36	11,497,100.05	(751,233.69)	-6.53%
=====				
<b>TOTAL ASSETS</b>	<b>\$ 113,021,202.85</b>	<b>\$ 115,364,721.72</b>	<b>\$ (2,343,518.87)</b>	<b>-2.03%</b>
=====				

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 02/28/18	AS OF 02/28/17	\$ CHANGE	% CHANGE
<b>CURRENT LIABILITIES</b>				
Accounts Payable	\$ 821,193.93	\$ 1,028,498.03	\$ (207,304.10)	-20.16%
Other Payables	11,495.76	100,280.58	(88,784.82)	-88.54%
	-----	-----	-----	-----
Total Accounts Payable	832,689.69	1,128,778.61	(296,088.92)	-26.23%
Accrued Payroll Liab	1,359,084.15	1,367,151.69	(8,067.54)	-0.59%
	-----	-----	-----	-----
Total Current Liabilities	2,191,773.84	2,495,930.30	(304,156.46)	-12.19%
<b>OTHER LIABILITIES</b>				
LT Accrued EB/Lease	-	268,134.61	(268,134.61)	-100.00%
LT Xenon Notes	4,000,000.00	4,000,000.00	-	0.00%
Pension Deferred Inflows	1,698,193.00	3,184,802.00	(1,486,609.00)	-46.68%
	-----	-----	-----	-----
Total Other Liabilities	5,698,193.00	7,452,936.61	(1,754,743.61)	-23.54%
	-----	-----	-----	-----
<b>TOTAL LIABILITIES</b>	<b>7,889,966.84</b>	<b>9,948,866.91</b>	<b>(2,058,900.07)</b>	<b>-20.69%</b>
<b>EQUITY</b>				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Mine Closure	1,415,782.17	1,398,522.89	17,259.28	1.23%
Restricted: Sanford Gift2	322,567.97	1,039,727.97	(717,160.00)	-68.98%
Restricted: Pension	2,476,537.00	3,103,052.00	(626,515.00)	-20.19%
Restricted: Experim. Int.	2,753,584.00	3,364,350.84	(610,766.84)	-18.15%
	-----	-----	-----	-----
Total Restricted Funds	14,468,471.14	16,405,653.70	(1,937,182.56)	-11.81%
Investment in Gen FA	83,422,398.28	83,343,946.51	78,451.77	0.09%
Unrestricted Funds	7,240,366.59	5,666,254.60	1,574,111.99	27.78%
	-----	-----	-----	-----
<b>TOTAL EQUITY</b>	<b>105,131,236.01</b>	<b>105,415,854.81</b>	<b>(284,618.80)</b>	<b>-0.27%</b>
	=====	=====	=====	=====
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>\$ 113,021,202.85</b>	<b>\$ 115,364,721.72</b>	<b>\$ (2,343,518.87)</b>	<b>-2.03%</b>
	=====	=====	=====	=====

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/18

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
<b>REVENUE</b>				
DOE Subcontracts	\$ 13,809,335.73	\$ 17,954,607.55	\$ (4,145,271.82)	-23.09%
NSF/NASA Subcontracts	15,275.85	10,208.70	5,067.15	49.64%
State Revenue	1,226.96	12,000.00	(10,773.04)	-89.78%
Contributions & Donations	125,000.00	125,000.00	-	0.00%
Checking Interest	1,147.95	495.52	652.43	131.67%
Interest Income	84,677.33	93,528.12	(8,850.79)	-9.46%
<b>TOTAL REVENUE</b>	<b>14,036,663.82</b>	<b>18,195,839.89</b>	<b>(4,159,176.07)</b>	<b>-22.86%</b>
<b>DIRECT COSTS</b>				
Direct Labor	4,431,603.69	4,985,614.86	(554,011.17)	-11.11%
ERT Labor	54,358.22	13,851.00	40,507.22	292.45%
Board of Directors	5,149.79	5,669.01	(519.22)	-9.16%
Capital Outlay >\$5K	307,773.93	574,651.00	(266,877.07)	-46.44%
Contractual Svcs	1,656,712.25	4,270,447.33	(2,613,735.08)	-61.21%
Inventory	112,150.56	138,029.02	(25,878.46)	-18.75%
Supplies	654,734.61	1,099,900.90	(445,166.29)	-40.47%
Travel - Domestic	39,187.34	45,136.90	(5,949.56)	-13.18%
Travel - Foreign	10,938.08	51,587.49	(40,649.41)	-78.80%
Utilities	1,361,090.65	1,406,006.01	(44,915.36)	-3.19%
Other Direct Costs	125,168.82	126,884.67	(1,715.85)	-1.35%
Unallow/Unbill Costs	230,437.28	244,851.36	(14,414.08)	-5.89%
<b>TOTAL DIRECT COSTS</b>	<b>8,989,305.22</b>	<b>12,962,629.55</b>	<b>(3,973,324.33)</b>	<b>-30.65%</b>
<b>INDIRECT COSTS</b>				
Fringe Benefits	2,716,777.50	2,806,530.40	(89,752.90)	-3.20%
Overhead	3,192,620.19	3,649,027.55	(456,407.36)	-12.51%
<b>TOTAL INDIRECT COSTS</b>	<b>5,909,397.69</b>	<b>6,455,557.95</b>	<b>(546,160.26)</b>	<b>-8.46%</b>
<b>GROSS PROFIT/LOSS ( )</b>	<b>(862,039.09)</b>	<b>(1,222,347.61)</b>	<b>360,308.52</b>	<b>-29.48%</b>
<b>OTHER INCOME</b>				
Water Treatment	69,110.16	89,806.50	(20,696.34)	-23.05%
Miscellaneous Income	249,788.87	86,107.87	163,681.00	190.09%
Other Operating Income	4,803.70	2,090.88	2,712.82	129.75%
<b>TOTAL OTHER INCOME</b>	<b>323,702.73</b>	<b>178,005.25</b>	<b>145,697.48</b>	<b>81.85%</b>
<b>OTHER EXPENSES</b>				
Loss(Gain) on Sale of FA	65,176.46	-	65,176.46	100.00%
Reclass Incr Net Assets	(1,357,701.40)	(1,180,528.31)	(177,173.09)	15.01%
<b>TOTAL OTHER EXPENSES</b>	<b>(1,292,524.94)</b>	<b>(1,180,528.31)</b>	<b>(111,996.63)</b>	<b>9.49%</b>
<b>NET INCOME/LOSS ( )</b>	<b>\$ 754,188.58</b>	<b>\$ 136,185.95</b>	<b>\$ 618,002.63</b>	<b>453.79%</b>



**South Dakota Science & Technology Authority**  
**Available Resources**  
**2/28/2018**

Cash Total Checking	\$ 1,084,930
Cash With State Treasurer	<u>\$ 12,534,541</u>
Total Cash	\$ 13,619,471
Less: Restricted Funds	
Indemnification/Mine Closure	\$ (8,915,782)
Experiments (Xenon, Interest, Infrastructure)	<u>\$ (2,815,506)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 1,888,183
Plus: Accounts Receivable Billed	\$ 1,551,594
Accounts Receivable Unbilled	\$ 445,029
Less: Current Liabilities (Accounts Payable & Accrued Payroll) (not including accts. pay. for Experiment funding)	<u>\$ (2,119,011)</u>
Available Cash	<u><u>\$ 1,765,795</u></u>

SDSTA Operating Budget Summary FY2018  
Actual vs Budget  
Feb. 2018 & YTD

	Feb. 2018	Budget	\$ Over/Under		Actual YTD	YTD Budget	\$ Over/Under		% Remaining
			Budget	% of Budget			Budget	% of Budget	
SDSTA (Authority) Direct Charges									100%
Board of Directors	\$17,917.00	\$19,900.00	\$1,983.00	90.04%	\$149,749.00	\$159,200.00	\$9,451.00	94.06%	5.94%
Executive Office	\$25,569.00	\$22,263.00	<b>-\$3,306.00</b>	114.85%	\$129,317.00	\$125,371.00	<b>-\$3,946.00</b>	103.15%	<b>-3.15%</b>
Science Center E & O	\$0.00	\$0.00	\$0.00	0.0%	\$11,147.00	\$25,749.00	\$14,602.00	43.29%	56.71%
Science Liaison	\$694.00	\$0.00	<b>-\$694.00</b>	100.0%	<b>-\$301.00</b>	\$0.00	\$301.00	100.00%	100.00%
Sanf.L.Visitor C. (Director)	\$0.00	\$0.00	\$0.00	0.0%	\$7,196.00	\$21,503.00	\$14,307.00	33.47%	66.53%
Subtotal	\$44,180.00	\$42,163.00	<b>-\$2,017.00</b>	104.78%	\$297,108.00	\$331,823.00	\$34,715.00	89.54%	10.46%
Federal/State Funding - Direct Charges									
Fermi P.O.#625691 B/Site Final Des.	\$0.00	\$0.00	\$0.00	0.0%	\$124,417.00	\$124,417.00	\$0.00	100.00%	0.00%
Fermi P.O.#625692 Pre Excav.F.D.	\$0.00	\$0.00	\$0.00	0.0%	\$164,709.00	\$164,709.00	\$0.00	100.00%	0.00%
Fermi P.O.Miscellaneous	\$0.00	\$0.00	\$0.00	0.0%	\$3,204.00	\$3,580.00	\$376.00	89.50%	10.50%
Fermi P.O.#631450 Engin. Services	\$0.00	\$0.00	\$0.00	0.0%	\$52,024.00	\$79,499.00	\$27,475.00	65.44%	34.56%
Fermi P.O.#639366 Prof. Services	\$0.00	\$0.00	\$0.00	0.0%	\$79,303.00	\$91,717.00	\$12,414.00	86.46%	13.54%
Fermi P.O.#641665 Prof. Services	\$24,589.00	\$24,506.00	<b>-\$83.00</b>	100.34%	\$35,281.00	\$40,136.00	\$4,855.00	87.90%	12.10%
Fermi C#629760 Bridge OPS	\$978,889.00	\$889,780.00	<b>-\$89,109.00</b>	110.02%	\$7,313,744.00	\$7,541,906.00	\$228,162.00	96.97%	3.03%
Fermi C#630223 Ross Rehab	\$186,522.00	\$250,483.00	\$63,961.00	74.47%	\$2,354,377.00	\$3,053,826.00	\$699,449.00	77.10%	22.90%
LBNL LUX C#6973786	\$0.00	\$0.00	\$0.00	0.00%	\$39,068.00	\$48,691.00	\$9,623.00	80.24%	19.76%
LBNL LUX/Zeplin C#7255146	\$132,443.00	\$158,643.00	\$26,200.00	83.49%	\$351,919.00	\$439,980.00	\$88,061.00	79.99%	20.01%
LBNL LZ Constr.C#7351116	\$124,729.00	\$183,000.00	\$58,271.00	68.16%	\$167,283.00	\$235,000.00	\$67,717.00	71.18%	28.82%
LBNL LZ Operations C#7355157	\$12,664.00	\$10,071.00	<b>-\$2,593.00</b>	125.75%	\$46,877.00	\$43,267.00	<b>-\$3,610.00</b>	108.34%	<b>-8.34%</b>
LBNL SIGMA-V C#7371823	\$9,867.00	\$6,679.00	<b>-\$3,188.00</b>	147.73%	\$60,538.00	\$59,179.00	<b>-\$1,359.00</b>	102.30%	<b>-2.30%</b>
MJD (Majorana) ORNL144149	\$2,027.00	\$2,600.00	\$573.00	77.96%	\$19,131.00	\$20,500.00	\$1,369.00	93.32%	6.68%
BHSU-UGCampus Gen.Serv.	\$0.00	\$200.00	\$200.00	0.0%	\$975.00	\$1,600.00	\$625.00	60.94%	39.06%
Sanf.Sci.Ed.Center - GOED Funded	\$35,325.00	\$33,500.00	<b>-\$1,825.00</b>	105.45%	\$302,151.00	\$317,666.00	\$15,515.00	95.12%	4.88%
SDSM&Tech CASPAR Gen.Serv.	\$1,626.00	\$2,666.00	\$1,040.00	60.99%	\$12,159.00	\$21,328.00	\$9,169.00	57.01%	42.99%
* Xilinx, Inc. P.O.#732495	\$709.00	\$1,000.00	\$291.00	70.9%	\$3,795.00	\$4,220.00	\$425.00	89.93%	10.07%
Subtotal	\$1,509,390.00	\$1,563,128.00	\$53,738.00	96.56%	\$11,130,955.00	\$12,291,221.00	\$1,160,266.00	90.56%	9.44%
Indirect Expenses									
Indirect Charges Personnel	\$118,012.00	\$120,399.00	\$2,387.00	98.02%	\$1,013,978.00	\$1,021,620.00	\$7,642.00	99.25%	0.75%
Indirect Charges Other	\$303,911.00	\$267,986.00	<b>-\$35,925.00</b>	113.41%	\$2,553,461.00	\$2,178,939.00	<b>-\$374,522.00</b>	117.19%	<b>-17.19%</b>
Subtotal	\$421,923.00	\$388,385.00	<b>-\$33,538.00</b>	108.64%	\$3,567,439.00	\$3,200,559.00	<b>-\$366,880.00</b>	111.46%	<b>-11.46%</b>
Totals	\$1,975,493.00	\$1,993,676.00	\$18,183.00	99.09%	\$14,995,502.00	\$15,823,603.00	\$828,101.00	94.77%	5.23%
* Private Corporation (Commercial Group)									

SDSTA CAPEX Budget Summary FY17/18  
Actual vs Budget  
February 2018 & YTD

<u>Budget Area</u>	<u>Actual Month</u>	<u>FY2018 Monthly Budget</u>	<u>\$ Over/Under Budget</u>	<u>% of Budget</u>	<u>Actual YTD</u>	<u>FY2018 YTD Budget</u>	<u>\$ Over/Under Budget</u>	<u>% of Budget</u>	<u>% Remaining</u>
									100.00%
Operational CAPEX	\$ 2,891.52	\$ 3,625.00	\$ 733.48	79.77%	\$ 1,403,130.12	\$ 4,677,160.00	\$ 3,274,029.88	30.00%	70.00%
TOTAL CAPEX	<u>\$ 2,891.52</u>	<u>\$ 3,625.00</u>	<u>\$ 733.48</u>	<u>79.77%</u>	<u>\$ 1,403,130.12</u>	<u>\$ 4,677,160.00</u>	<u>\$ 3,274,029.88</u>	<u>30.00%</u>	<u>70.00%</u>

SD Science & Technology Authority  
Operational CAPEX Budget  
Monthly Actual vs Budget

Project #	Project Description	Feb. 2018	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ -	\$ -	\$ -	0.00%
CAP2014-05	CASPAR Experiment Development	\$ -	\$ -	\$ -	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 762.45	\$ 3,000.00	\$ 2,237.55	25.42%
CAP2016-03	LZ Xenon Gas	\$ 2,129.07	\$ 625.00	\$ (1,504.07)	340.65%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
	Monthly Totals	<u>\$ 2,891.52</u>	<u>\$ 3,625.00</u>	<u>\$ 733.48</u>	<u>79.77%</u>

SD Science & Technology Authority  
Operational CAPEX Budget  
YTD FY2018 Actual vs Budget

Project #	Project Description	Feb. 2018 YTD	FY2018 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 8,713.93	\$ 5,268.00	\$ (3,445.93)	165.41%	-65.41%
CAP2014-05	CASPAR Experiment Development	\$ 79,850.19	\$ 79,850.00	\$ (0.19)	100.00%	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 168,438.32	\$ 251,329.00	\$ 82,890.68	67.02%	32.98%
CAP2016-03	LZ Xenon Gas	\$ 977,972.13	\$ 4,100,000.00	\$ 3,122,027.87	23.85%	76.15%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 168,155.55	\$ 240,713.00	\$ 72,557.45	69.86%	30.14%
	Totals	\$ 1,403,130.12	\$ 4,677,160.00	\$ 3,274,029.88	30.00%	70.00%

Page intentionally  
blank



---

## DECLARATION OF SURPLUS PROPERTY

February 28, 2018

The South Dakota Science and Technology Authority (SDSTA) wishes to surplus three Tsurumi Submersible Pumps. SDSTA has no further use for the items listed below:

- Tsurumi LH875 serial #7199264002. This pump at the Ross 2600L sump was recently replaced due to failure. Costs to repair the pump exceed its net value of \$13,740.18 (after depreciation). A new pump was purchased under Subcontract 629760, SURF Services, to replace it.
- Tsurumi LH875 serial #7197160004. The cost to repair this failed pump exceeds its net value of \$20,497.19.
- Tsurumi LH675/875 serial #7197406004. The cost to repair this failed pump exceeds its net value of \$20,497.19.

SDSTA plans to salvage and reuse any functional spare parts from these pumps.

I hereby declare the Tsurumi Submersible Pumps to be Surplus Property. Dated at Lead, South Dakota this 28<sup>th</sup> day of February, 2018.

A handwritten signature in blue ink, appearing to read "Mike Headley".

Mike Headley  
SDSTA Executive Director

Page intentionally  
blank



**New SDSTA Policies and Procedures Manual—Mr. Mike Headley**

---

The SDSTA Policies and Procedures manual has been redesigned as well as the Employee Handbook; the Handbook has been incorporated into the manual as Section 2.

Binders have been created and will be distributed to board members at the March meeting.

---

**Recommended Action:**

Page intentionally  
blank

**Update on SDSTA Business Advisory Council—Vice-Chairperson Ron Wheeler**

---

Page intentionally  
blank

**Executive Session—Chairperson Casey Peterson**

---

Meeting closed to public during executive session. See recommended motion below.

---

**Recommended Action:**

*Motion to enter executive session to discuss personnel matters and to consult with legal counsel concerning contractual and legal matters.*

Page intentionally  
blank

**Report from Executive Session—Chairperson Casey Peterson**

---

*See recommended action below.*

---

**Recommended Action:**

*“The board consulted with legal counsel concerning contractual and legal matters. No action was taken.”*

*OR...stated otherwise.*

Page intentionally  
blank



**Executive Compensation—Vice-Chairperson Ron Wheeler**

---

Page intentionally  
blank

**Select Nominating Committee—Chairperson Casey Peterson**

---

The election of officers will be held at the June 28, 2018 meeting.

---

**Recommended Action:**

*None.*

Page intentionally  
blank

**Confirm date and time of next meeting—Chairperson Casey Peterson**

---

The next board meeting (annual) will be held on Thursday, June 28, beginning at 8:00 AM (Mountain Time).

<b>2018 Board Schedule</b>	
March 29, 2018	08:00 am (MT)
<b>June 28, 2018</b>	<b>08:00 am (MT)</b>
September 18, 2018	08:00 am (MT)
December 13, 2018	09:00 am (MT), lunch provided

*South Dakota Science and Technology Authority*  
*Sanford Underground Research Facility*  
*Education & Outreach Building (large conference room)*  
*630 E. Summit Street, Lead SD 57754*  
*Questions? Contact Mandy Knight, [mknight@sanfordlab.org](mailto:mknight@sanfordlab.org)*  
*Direct Line: 605.722.4022, Cell: 605.641.0475*

---

**Recommended Action:**

*None.*

Page intentionally  
blank

**Public Comments—Chairperson Casey Peterson**

---

---

**Recommended Action:**

*None.*

Page intentionally  
blank



**Board Comments—Chairperson Casey Peterson**

---

1. Dr. Ani Aprahamian
2. Mr. Paul Christen
3. Mr. Dana Dykhouse, Vice-Chairperson
4. Ms. Pat Lebrun, Secretary-Treasurer
5. Mr. Casey Peterson, Chairperson
6. Mr. Ron Wheeler, Vice-Chairperson
7. Dr. Robert Wilson
8. Dr. James Rankin, ex-officio member

---

**Recommended Action:**

*None.*