

South Dakota Science and Technology Authority

**Board Meeting
March 21, 2019**



630 East Summit Street
Lead, SD 57754

Call to Order—Chairperson Casey Peterson

1A. Call Roll

Dr. Ani Aprahamian
Mr. Dana Dykhouse
Ms. Pat Lebrun
Mr. Roger Musick
Mr. Casey Peterson
Dr. James Rankin, ex-officio member
Mr. Ron Wheeler
Dr. Bob Wilson

1B. Introduce guests

1C. Public comment form (remind audience copies of form are located on sign-in table)

Procedure for Public Comment Periods

Pursuant to SDCL 1-25-1 as amended by House Bill 1172 in the 2018 Legislative Session the procedure for conducting public comment periods during meetings of the South Dakota Science and Technology Authority (SDSTA) shall be as follows:

The chair of the SDSTA shall reserve a period for public comment, limited at the chair's discretion, at each meeting.

Before the beginning of the meeting, all persons who wish to make comments during the comment period shall indicate their desire to do so on a form that will be provided by the Executive Director. The form shall indicate the person's name, city of residence and generally describe the matter or matters on which the person wishes to comment.

The amount of time allocated to each interested person who wishes to make comments will be determined at the chair's discretion at each meeting.

Comments must be limited to matters which are under the jurisdiction of the SDSTA.

All persons making public comments at meetings of the SDSTA must do so in a manner that maintains civility. Comments which contain offensive language or profanity will not be tolerated

**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 02

Approve Agenda—Chairperson Casey Peterson

Attached is the agenda for the March 21, 2019 meeting.

Recommended Action:

Motion to approve agenda as presented.

AGENDA
Meeting of the Board of Directors
Thursday, March 21, 2019 at 8:00 AM (MT)

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

Public (Open) Session: 1-866-740-1260, Access Code: 7228650, 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 C. Reminder request for public comment form	-- Chair Casey Peterson	<i>Informational</i> <i>Confirm quorum</i>
2. Approve agenda	-- Chair Casey Peterson	<i>Motion to approve agenda</i>
3. Approve minutes	-- Chair Casey Peterson	<i>Motion to approve December 13, 2018 and February 21, 2019 minutes as presented</i>
4. Conflict of Interest Disclosure	-- Mr. Tim Engel	
5. Disclosures and Waivers under SDCL CH. 3-23	-- Mr. Tim Engel	<i>Grant waiver or decline to grant waiver</i>
6. Audit Committee Report & Approval of Audit Report FY Ended June 30, 2018	-- Ms. Pat Lebrun	<i>Motion to accept Audit Report Fiscal Year Ended June 30, 2018 as reviewed and discussed at December 13, 2018 board meeting</i>
7. Financial Report—February financial report and summaries	-- Mr. Mike Headley -- Ms. Nancy Geary	<i>Motion to accept report as presented</i>
8. Report from Executive Director A. SDSTA quarterly update —Declarations of surplus (2) —ManagerPlus update B. Science update	-- Mr. Mike Headley -- Dr. Jaret Heise	<i>All informational</i> <i>Motion to accept executive director's report</i>
9. 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 and legal matters</i>
10. 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 21, 2019 at 8:00 AM (MT)

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

Public (Open) Session: 1-866-740-1260, Access Code: 7228650, www.readytalk.com

Title	Report	Recommendations
11. Discuss creation of SDSTA fundraising foundation	-- Mr. Mike Headley	<i>Motion to authorize the chair and executive director to work with legal counsel to form an appropriate foundation legal entity, to authorize the chair to execute the necessary organizational documents and to authorize the use of up to \$15,000.00 of SDSTA funds for said purposes</i>
12. Select Nominating Committee	-- Chair Casey Peterson	<i>Election of officers to be held at the annual board meeting in June</i>
13. Confirm date and time of next meeting	-- Chair Casey Peterson	<i>Thursday, June 20 at 8:00am (MT)</i>
14. Public comments		
15. Board comments		
16. Adjourn	-- Chair Casey Peterson	<i>Motion to adjourn</i>

SDSTA Board Member Terms of Service, Committees and Schedule

Board Members and Terms of Service			
	Board Members	Appointed	Term Expires
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 Dykhouse, 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	
Committees and Members (2018-2019)			
	Audit Committee Members:	Nominating Committee Members:	
	> Pat Lebrun-Chair	> tbd	
	> Dana Dykhouse	> tbd	
	> Casey Peterson, ex-officio		
2019 Board Schedule			
	<i>February 21, 2019</i>	<i>9:30 am (MT)</i>	<i>Special Telephonic</i>
	Thursday, March 21 2019	8:00 am (MT)	E&O Bldg
	Thursday, June 20, 2019	8:00 am (MT)	E&O Bldg
	Thursday, September 19, 2019	8:00 am (MT)	E&O Bldg
	Thursday, December 12, 2019	9:00 am (MT)	E&O Bldg, lunch

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**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 03

Approve Minutes—Chairperson Casey Peterson

Attached are the Minutes for the following SDSTA Board meetings:

- December 13, 2018
- February 21, 2019 (telephonic)

Recommended Action:

Motion to approve the Minutes of the December 13, 2018 and February 21, 2019 meetings as presented.

South Dakota Science and Technology Authority Board of Directors
Meeting Minutes
Thursday, December 13, 2018
Lead, South Dakota

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 9:01 AM Mountain Time (MT) on Thursday, December 13, 2018, 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

Secretary/Treasurer Patricia Lebrun (in person)
Mr. Roger Musick (in person)
Chairperson Casey Peterson (in person)
Dr. James Rankin, ex-officio (in person)
Vice Chairperson Ron Wheeler (in person)
Dr. Robert Wilson (by phone)

MEMBERS OF THE BOARD ABSENT

Dr. Ani Aprahamian
Vice Chairperson Dana Dykhouse

SDSTA STAFF

Mr. Tim Engel, Legal Counsel
Ms. Nancy Geary, Chief Financial Officer
Ms. Pamela Hamilton, Project Manager for Organizational Development
Mr. Mike Headley, Executive Director
Ms. Lisa Rodgers, Business Services and Contracts Manager
Ms. Mandy Knight, Administrative Services Manager
Mr. KC Russell, Cultural Diversity Coordinator
Ms. Constance Walter, Communications Director
Ms. Natasha Wheeler, Administrative Assistant

ALSO PRESENT DURING ALL OR PART OF THE MEETING

Dr. June Apaza, Education and Outreach (E&O) Director (BHSU)
Ms. Julie Dahl, Science Education Specialist (BHSU)
Ms. Elizabeth Freer, dialogue, LLC
Ms. Donna Job, Sanford Lab Homestake Visitor Center Executive Director
Mr. Gene Lebrun, guest of board member
Dr. Peggy Norris, Education and Outreach Deputy Director (BHSU)
Mr. Alex Portal, Black Hills Pioneer Journalist
Ms. Debra Wolf, Education and Outreach (E&O) Incoming Director (BHSU)

ITEM 1. CALL TO ORDER

Chairperson Casey Peterson called the meeting to order at 9:01 AM (MT). Roll call was held. All board members were present in person except Dr. Robert Wilson, who joined by phone. Dr. Ani Aprahamian and Mr. Dana Dykhouse were absent.

Chair Peterson then asked audience members to introduce themselves.

He said if anyone from the audience had any questions they would like the board to address, to please complete the public comment form located at the sign-in table and time will be given at the end of the agenda to discuss.

ITEM 2. APPROVE AGENDA

Chair Peterson asked if there were any modifications to the agenda. Hearing none, Chair Peterson asked for a motion to approve the agenda.

Motion by Mr. Wheeler and seconded by Mr. Musick to approve the agenda as presented. Motion passed unanimously.

ITEM 3. APPROVE MINUTES

Chair Peterson asked for any comments on the Minutes of the September 18, October 24 and November 13, 2018 meetings. There were none.

Motion by Ms. Lebrun and seconded by Mr. Wheeler to approve the Minutes of the September 18, October 24 and November 13, 2018 meetings as presented. Motion passed unanimously.

ITEM 4. GENERAL CONFLICT OF INTEREST DISCLOSURE

SDSTA Legal Counsel Mr. Tim Engel said as discussed at past meetings, it has been a recommendation of the Board of Internal Control that a general conflicts of interest disclosure be included on public board agendas. Mr. Engel said, this is a chance for any member of the board, who feels they have anything that might be construed to be a conflict of interest, to disclose it.

No conflicts of interest were disclosed.

Dr. Rankin arrived at 9:06 AM.

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

Mr. Engel said in regard to disclosures and waivers under SDCL Ch. 3-23, he polled the board members prior to the meeting and there were none. No further action was required.

ITEM 6. REPORT FROM THE AUDIT COMMITTEE

Ms. Lebrun referenced the Audit Report included in the board packet and said the committee met October 1 with South Dakota Legislative Auditor Mr. Al Schaefer and SDSTA Chief Financial Officer Ms. Nancy Geary and reviewed the audit report for the fiscal year ending June 30, 2018. She noted that the audit went smoothly, there were no findings and the audit was clean thanks to the SDSTA financial staff. She recommended board members review the report and referenced page 2, where pertinent financial highlights are listed. Assets at year-end decreased, and total net position at year-end decreased, mostly attributed to money spent bringing the lab and staffing up to date.

Ms. Lebrun stated the audit report will be voted on at the March 2019 meeting, providing board members enough time to review the audit and ask questions.

Motion by Ms. Lebrun and seconded by Mr. Wheeler to accept the Audit Committee Report and to discuss Audit Report approval at the next regularly scheduled board meeting per statute. Motion passed unanimously.

ITEM 7. FINANCIAL REPORT

ITEM 7A. November Financial Report and Summaries

Ms. Geary presented the financial report. She said the SDSTA received \$4 million from the Future Fund to be used for the maintenance facility. The SDSTA is currently working to get the demolition contract in place.

Mr. Mike Headley added that work has been underway to clean the current structure, including asbestos removal, and to move core samples out of the building.

Ms. Geary thanked Governor Daugaard for providing the aforementioned funds.

She added that the SDSTA will be receiving its last \$1 million from the South Dakota State University Foundation before the first part of the year for the last shipment and purchase of xenon. A shipment was received in November; the invoice will be paid upon receipt of the shipment's assay results.

Ms. Geary noted the new allocation method has been in place for two months and has gone well, with no vendor issues so far.

Invoices were reported with an underage of \$348,000.00; Ms. Geary and Mr. Headley said that plans for the extra funds include hiring a new underground locomotive operator position and purchasing new wire ropes. Mr. Headley noted the operator position will be a restoration of a position that was lost when funds were no longer available.

Motion by Mr. Musick and seconded by Mr. Wheeler to accept the financial report as presented. Motion passed unanimously.

ITEM 7B. Internal Controls Audit Report proposal

Mr. Headley indicated SDSTA sought proposals for an internal controls audit, using an external firm, in addition to the annual financial audit. Since the last meeting, two Requests for Proposal (RFPs) have been released, resulting in zero proposals for the first attempt, and only one proposal from the second attempt which included a total price much higher than expected. He said the list of firms contacted was somewhat limited, and that SDSTA approached them during a busy time of year, which may have prevented firms from submitting reasonably priced proposals.

Ms. Lebrun suggested reissuing the internal control audit report RFP without a defined timeframe or financial limitation, to be issued to national, regional and local firms, allowing them to define when they are available to perform the work. She said the SDSTA is under no pressure to have the audit done, but a benchmark should be established because an organization handling millions of dollars a year in funding such as ours should be able to assure proper controls are in place and are being followed.

Motion by Ms. Lebrun and seconded by Mr. Musick to resubmit the Internal Controls Audit request for proposal to local, regional and national firms. Motion passed unanimously.

Dr. Rankin noted that the Internal Controls Audit proposal submitted should be rejected in response to the reissuing of the RFP.

Motion by Ms. Lebrun and seconded by Mr. Wheeler to reject the current Internal Controls Audit Report proposal. Motion passed unanimously.

ITEM 8. REPORT FROM THE EXECUTIVE DIRECTOR

ITEM 8A. Declaration of Surplus

Mr. Headley stated that Ms. Pam Hamilton is the project manager for the maintenance facility project, and efforts have been underway to clean out old equipment and surplus from the building. He referenced a declaration of surplus included in the board packet and said it outlines a number of motors and pumps that were in the building but are no longer needed by the SDSTA. The items have been designated as surplus and will either be scrapped or auctioned as appropriate. A process will be followed to sell equipment with value and scrap the remainder.

ITEM 8B. SDSTA Quarterly Update

Mr. Headley presented his Executive Director report beginning with safety and noted the November 20 Safety All Hands meeting focused on reducing slips, trips and falls. He said the LZ Safety Review was hosted on-site in November, a new Fatigue Management Program has been rolled out site-wide, supporting the change in shift schedules at the Ross Shaft, and there have been updates to the Drug and Alcohol Testing Policy and Procedures. He also highlighted the recent "deep dive" review of the electrical safety program, noting that equipment and procedure updates are necessary and underway.

Additionally, he noted the SDSTA is developing plans for ISO certifications for safety, environmental and quality assurance. Mr. Headley also said a new employee fitness program is underway, tracking the number of exercise minutes completed by participants.

Mr. Headley presented a line-graph depicting injury statistics onsite, noting that injuries are trending downward, which is also evidenced by a 12% reduction in renewal costs for 2019 Worker's Compensation. He said this is a \$36,000.00 decrease from last year even with a 5% increase in payroll.

Mr. Headley said all Department of Energy (DOE) Review of Fermilab Management and Governance for South Dakota Activities recommendations have been entered into the Fermi Research Alliance LLC (FRA)'s issues tracking system (iTrack). The FRA Chief Safety Officer is tracking and reporting progress on a monthly basis for both Operational Safety and Management/Governance reviews to the LBNF Deputy Director and 14 of 16 Management and Governance recommendations have been completed. He also addressed the electrical safety program assessment that occurred December 3-7, noting that participants included Fermilab, DOE-Fermi Site Office (FSO), SDSTA and Lawrence Berkeley National Lab (LBNL). This assessment addressed one of the two remaining findings from the Operational Safety Review.

Environment, Safety and Health Oversight Committee (ESHOC) recommendations are 96% complete, Mr. Headley said, as well as 69% of site-wide/multi-disciplinary safety audit actions.

He also reviewed Cultural activities since the last meeting and mentioned the Cultural Advisory Committee (CAC) meeting held on October 30 included an underground tour. He said there were seven classroom presentations at the Lower Brule Tribal School, and staff participated in the South Dakota Indian Education Summit in Pierre, SD. Mr. Headley noted CAC member Dr. Urla Marcus has stepped down, and Ms. Rochelle Zens filled the vacant seat in October 2018. Ms. Zens is the Assistant Director for the Center for American Indian Studies at Black Hills State University (BHSU). He continued, SDSTA staff attended the mid-year honoring luncheon for honor students and end-of-semester graduates at South Dakota School of Mines and Technology (SDSM&T) and assisted in the process for a Sioux Falls auto dealership's sponsorship, providing two leased vehicles for the upcoming year to transport classroom trailers, used for outreach to Indian Country Schools. He noted insurance and fuel costs are covered by STARBASE.

Reviewing federal funding, Mr. Headley outlined the Fiscal Year (FY) 2019 Appropriation, with \$15 million for SURF, \$130 million for LBNF/DUNE and \$14.2 million for LZ. He added, discussions with DOE are looking favorable for FY2020. Mr. Headley also said the potential pending government shutdown would not be expected to impact SDSTA, as funds are already appropriated for current operations.

Mr. Headley concluded his report by sharing the new draft Sanford Underground Research Facility (SURF) Diversity Statement, recognizing the SDSTA's respect for the value in staff, research, and partner differences in background, viewpoints and approaches to problem-solving. The statement is still a work-in-progress, but Mr. Headley said it is nearly complete and illustrates SURF's commitment to diversity, equity and inclusion, empowering everyone to succeed.

ITEM 8C. SLHVC Update

Sanford Lab Homestake Visitor Center (SLHVC) Executive Director Ms. Donna Job said that 46,000 visitors were at the SLHVC from May through October 2018. This resulted in \$380,000.00 in sales and included 174 busses carrying 7,000 people. On the biggest bus day, July 24, 2018, 6 busses visited the SLHVC, resulting in \$8,067.00 in sales.

Ms. Job also shared the upcoming Naming Rights campaign, which will solicit sponsors in return for naming the Observation Deck, Classroom, Conference Room, and Davis Ring Courtyard. Those names will be assigned to the Observation Deck for 100 years, the Classroom and Courtyard for 50 years, and

to the Conference Room for 25 years. She noted that packets will be sent out in January 2019, with maps, photos, costs and associated benefits of sponsorship. The naming ceremony will be on June 30, 2020 at the SLHVC (its 5th anniversary), and will highlight the Exhibit Refresh, which has just begun at SLHVC as well.

Ms. Job requested advice for sponsor suggestions and included contact information on her presentation slides, including email, the website and a Facebook page. She added, the website has been updated to include a merchandise sale link that will accept PayPal and should be live within the coming weeks, at which time a collection of SLHVC gift shop items will be available for sale through the website.

ITEM 8D. Education and Outreach (E&O) Update

E&O Director Dr. June Apaza began the E&O update by providing statistics for children reached by programs, with a total of 4,362 students in the 2018-2019 school year through November 30. These programs include curriculum units (1,258 students), classroom presentations (2,411 students) field trips (298 students) and other activities (395 students). Dr. Apaza then highlighted current work and three new assembly programs added this fall, including “Hot Rocks” for middle school students, “Water – Where Does it Go?” for high school students, and “Magnificent Thing” for elementary school students.

Incoming E&O Director Ms. Debra Wolf then picked up where Dr. Apaza left off, describing programs currently in development. These included, “Too Much/Too Little,” “Ghost Particles,” and “Move it!” as working titles.

Ms. Wolf stated that recruitment efforts are underway for Davis-Bachall Scholars and internships; online classes will be offered to teachers again in the spring; and planning is underway for a new weeklong summer teacher professional development institute.

At the end of the E&O update, Mr. Headley and Chairperson Peterson presented Dr. Apaza with an engraved core sample in appreciation of her time and effort shared with SDSTA and her work in the E&O Department.

The board recessed for break at 9:30 AM and reconvened at 9:50 AM.

Motion by Mr. Wheeler and seconded by Ms. Lebrun to accept the Executive Director’s report as presented. Motion passed unanimously.

ITEM 9. LOBBYIST REGISTRATION

Mr. Engel stated that state law requires the governing body designate an authorized lobbyist for the Legislative Session, and the SDSTA makes this an annual agenda item each December. Continuing from 2018, Mr. Engel suggested Mr. Headley, Mr. Wheeler and himself remain in that designation.

Motion by Mr. Wheeler and seconded by Dr. Wilson to designate Mike Headley, Ron Wheeler and Tim Engel as lobbyists for the SDSTA for the 2019 Legislative Session. Motion passed unanimously.

ITEM 10. SCOPING STUDY FOR POTENTIAL SCIENCE, TECHNOLOGY, ENGINEERING AND MATH (STEM) INSTITUTE

Mr. Wheeler explained the E&O program was the initial step in SDSTA education and outreach, to be followed up by a STEM institute to be created at SURF. To better understand the potential design of the project, he suggested considering a proposal made by Ms. Elizabeth Freer to create a scope study. He added that her credentials include a resume of applicable qualifications and previous work with the Deep Underground Science and Engineering Lab (DUSEL) and SURF facility and E&O planning and design. He noted that Ms. Freer is married to Mr. Headley. Mr. Headley stated that Ms. Freer’s business is a standalone entity, with no financial ties to his personal finances.

Questions raised by the board highlighted the wide range of variables to consider, such as the breadth of focus topics, funding, intended audience, etc.

Ms. Freer then addressed the board, describing her proposal. She said, the first step is to identify institutes that have similar missions and designs, choose up to five of those institutes to study and develop and understanding of how those institutes operate. The research would include looking at program seasonality, participant age ranges, programs being offered, facilities, and, any available budget information, etc. She projected that the study would involve about 15 hours per institute to evaluate how a STEM institute at SURF would be best designed and operated.

Board discussion indicated that various partnerships may be a possibility, but the project should not be a replication of another institute.

Defining whether the institute would be designated as a government entity was also highlighted as a primary item to consider as research develops for the project.

Mr. Headley left the room at 11:08 AM to allow deliberation of the proposal by the board.

Mr. Engel stated that potential issues could include a financial conflict of interest relating to Mr. Headley's relationship with Ms. Freer, state law conflicts related to a public official statute, and the question of more advantageous firms for the benefit of SURF and the proposed institute. Upon review of these issues, Mr. Engel stated that 1) separation of business and personal funds, 2) Mr. Headley's Executive Director position at the lab not qualifying as a "public official" (as that term is used in the statute) and 3) Ms. Freer's professional qualifications should alleviate concerns related to the aforementioned potential conflicts.

Motion by Ms. Lebrun and seconded by Mr. Musick to make a finding the transaction is in SDSTA's best interest, it is for the benefit of SDSTA and it is fair and reasonable. Motion passed unanimously.

Motion by Mr. Wheeler and seconded by Mr. Musick to authorize the chairperson to enter into a contract with dialogue, LLC to provide a study of STEM-related institutes to assist in the planning for a future potential STEM institute associated with SURF as presented. Motion passed unanimously.

Mr. Headley returned to the meeting at 11:13 AM.

ITEM 11. REVIEW SDSTA POLICIES AND PROCEDURES

Mr. Headley discussed two SDSTA policies. He said the Diversity, Equity and Inclusion Policy is a new policy drafted from policies of similar institutions and reviewed by Mr. Engel.

He then addressed the updated Drug and Alcohol Testing Policy and said the policy included minimal updates. The Drug and Alcohol Testing Procedure changed with recommendations from the on-site occupational health nurse, ESH Director and medical review officer to align presumptive testing with industry standards. This was also reviewed by Mr. Engel.

Motion by Mr. Wheeler and seconded by Mr. Musick to approve the updated Drug & Alcohol Testing Policy and new Diversity, Equity and Inclusion Policy as presented. Motion passed unanimously.

ITEM 12. EXECUTIVE SESSION

Motion by Ms. Lebrun and seconded by Dr. Wilson to enter into executive session to discuss personnel matters and to consult with legal counsel concerning legal and contractual matters. Motion passed unanimously.

The board recessed at 11:18 AM for five minutes to get lunch and entered into executive session. They reconvened in open session at 12:40 PM.

ITEM 13. REPORT FROM EXECUTIVE SESSION

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

Motion by Mr. Wheeler and seconded by Mr. Musick to approve the executive session report. Motion passed unanimously.

ITEM 14. CONFIRM 2019 BOARD SCHEDULE

Chairperson Peterson asked if anyone had concerns with the 2019 board meeting schedule, including meetings on Thursday, March 21 at 8:00 AM (MT), Thursday, June 20 at 8:00 AM (MT), Thursday, September 19 at 8:00 AM (MT), and Thursday, December 12 at 9:00 AM (MT). Dr. Wilson voiced potential conflict but agreed to the schedule; no other objections were made.

ITEM 15. PUBLIC COMMENTS

Chairperson Peterson announced he did not receive any public comment request forms. No one from the audience asked any questions.

ITEM 16. BOARD COMMENTS

Dr. Wilson noted the great progress being made and noted positive feedback concerning the lab's evolution and accommodations for scientists.

Mr. Musick expressed his appreciation for the information he receives weekly from the SDSTA staff to stay informed. Mr. Peterson invited Mr. Musick to visit the lab at any time to learn more about the facility and thanked him for attending.

Mr. Wheeler reiterated his appreciation of the staff and his excitement for E&O developments. He closed by wishing everyone a safe and Happy Holiday.

Dr. Rankin stated the meeting was informative and mentioned a Rapid City Journal story that ran December 13, describing the hoist operations at the Yates Headframe.

Ms. Lebrun thanked everyone for another good meeting and noted that progress is being made. She also welcomed Ms. Rodgers as a new staff member and wished everyone Happy Holidays.

Mr. Headley thanked the SDSTA Administrative Services team, welcomed Ms. Rodgers and voiced his opinion that she is exactly the right person for the job. He also thanked Mr. Engel for his work and thanked the board for being part of the team and wished everyone a great holiday.

Mr. Engel wished everyone a safe and Happy Holiday.

Chair Peterson acknowledged that 2019 will be a busy year, and thanked Mr. Headley for stepping up to take on the challenge. He congratulated Dr. Apaza for her service and noted she has done a great job, also welcoming Ms. Wolf onboard. Mr. Peterson also welcomed Ms. Rodgers, thanked Mr. Engel for being part of the team as legal counsel, and expressed his appreciation to the staff. He also wished everyone a safe Merry Christmas and Happy New Year.

ITEM 17. ADJOURN

Chairperson Peterson called for a motion to adjourn.

Motion by Mr. Musick and seconded by Mr. Wheeler to adjourn. Motion passed unanimously.

Meeting adjourned at 12:48 PM.

South Dakota Science and Technology Authority Board of Directors
Special Telephonic Meeting Minutes
Thursday, February 21, 2019
Lead, South Dakota

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 9:30 a.m. Mountain Time (MT) on Thursday, February 21, 2019, via teleconference. Listening posts for the public were established at the office of the SDSTA at 630 E. Summit Street, Lead, South Dakota, and at the Dolly-Reed Plaza in the Treehouse conference room, 711 East Wells Avenue, Pierre, South Dakota.

MEMBERS OF THE BOARD IN ATTENDANCE BY TELEPHONE

Vice-Chairperson Dana Dykhouse
Secretary/Treasurer Patricia Lebrun
Mr. Roger Musick
Chairperson Casey Peterson
Dr. James Rankin, *ex-officio member*
Vice-Chairperson Ron Wheeler
Dr. Robert Wilson

MEMBERS OF THE BOARD ABSENT

Dr. Ani Aprahamian

SDSTA STAFF IN ATTENDANCE

Mr. Tim Engel, Legal Counsel (by phone)
Ms. Nancy Geary, Chief Financial Officer
Mr. Mike Headley, Executive Director (by phone)
Ms. Mandy Knight, Administrative Services Manager
Ms. Natasha Wheeler, Administrative Assistant

GUESTS IN ATTENDANCE

No guests were present.

ITEM 1. CALL TO ORDER

Chair Casey Peterson called the meeting to order at 9:30 a.m. (MT). Chair Peterson declared a quorum was present, consisting of board members Mr. Dykhouse, Ms. Lebrun, Mr. Musick, Chairperson Peterson, Mr. Wheeler and Dr. Wilson. Ex-officio member Dr. Rankin was also present. Dr. Aprahamian was absent.

Chair Peterson asked participants at the listening posts in Pierre and Lead to identify themselves. There was no response at the Pierre listening post. SDSTA staff listed above were present at the Lead office, except SDSTA Legal Counsel Mr. Tim Engel and Executive Director Mr. Mike Headley who joined by phone.

ITEM 2. APPROVE AGENDA

Chair Peterson asked for a motion to approve the agenda.

Motion by Mr. Dykhouse and second by Mr. Musick to approve the agenda as presented. By roll call vote, the motion passed unanimously.

ITEM 3. GENERAL CONFLICT OF INTEREST DISCLOSURE

Mr. Engel said it has been a recommendation of the Board of Internal Control that a general conflicts of interest disclosure be included on public board agendas. He opened the floor for any member of the board, who feels they have anything that might be construed to be a conflict of interest, to disclose it.

No conflicts of interest were disclosed.

ITEM 4. DISCUSSION OF SUPPLEMENTAL NO. 2 TO TEMPORARY CONSTRUCTION EASEMENT

Mr. Engel reminded the board they authorized SDSTA to enter into a temporary construction easement with the Department of Energy (DOE) to facilitate the construction of the Long-Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE) project. The agreement was supplemented in June of 2017 to add additional property to the easement area. DOE has asked that SDSTA further increase the easement area. Mr. Engel referred to Supplemental Agreement No. 2 in the board packet and explained it does not change the substance of the easement, but it increases the available area. He added that there will be a significant area of shared space. The easement is non-exclusive, meaning one party's use of the easement area cannot exclude the other, and neither party can unreasonably hinder the other's use of the area.

Dr. Wilson raised a question about easement usage and exclusive access and asked if there would be any future challenges with DOE agreements or subcontractors relevant to the area? Mr. Engel stated the easement is non-exclusive, but should any additional access be granted, it would need to be ensured that access was not a hinderance to current parties. He also added that access under the easement to DOE is limited to access for purposes of the LBNF/DUNE project.

Mr. Headley stated the changes to the easement better define the project area, as the designs have advanced. He said, this supplement ensures access to the correct work areas for the project to continue.

Ms. Lebrun asked about above-ground and below-ground areas related to the easement. Mr. Headley confirmed it includes both and directed the board to the exhibit included in the board packet, noting that locations are written in the lower-right hand corner of the illustrated pages.

Motion by Mr. Wheeler and second by Ms. Lebrun to approve the Temporary Construction Easement – Supplemental No. 2 with the DOE/LBNF Project and authorize Chairperson Peterson to sign the agreement. By roll call vote, the motion passed unanimously.

ITEM 5. PUBLIC COMMENTS

Chairperson Peterson asked if there were any questions or comments from the public. There were none.

ITEM 6. ADJOURN

Chair Peterson reminded board members the next regularly scheduled board meeting will be held on Thursday, March 21 at 8:00 a.m. (MT) in the Education and Outreach Building and called for a motion to adjourn.

Motion by Mr. Dykhouse and second by Dr. Wilson to adjourn. By roll call vote, the motion passed unanimously.

Meeting adjourned at 9:48 a.m. (MT) on February 21, 2019.

Conflict of Interest Disclosure—Mr. Tim Engel

Recommended Action:
Informational.

Conflict of Interest Disclosure and Waiver Under SDCL Ch. 3-23—Mr. Tim Engel

Recommended Action:

Motion to approve or deny as appropriate.

Report from Audit Committee—Ms. Pat Lebrun

Audit Committee Report and approval of SDSTA Audit Report-Fiscal Year Ended June 30, 2018, attached.

Recommended Action:

Motion to accept the Audit Report for Fiscal Year Ended June 30, 2018.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

AUDIT REPORT

Fiscal Year Ended June 30, 2018



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

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY
AUTHORITY OFFICIALS
June 30, 2018

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. James Rankin, Ex-Officio Member

Executive Director:

Michael Headley

Chief Financial Officer:

Nancy Geary

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY
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427 SOUTH CHAPELLE
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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, 2018, 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 11, 2018.

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 a 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 from 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 11, 2018

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

SCHEDULE OF PRIOR AUDIT FINDINGS

Prior Audit Findings:

The prior audit report contained no written audit findings.

SCHEDULE OF CURRENT AUDIT FINDINGS

Current Audit Findings:

There are no written current audit findings to report.



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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, 2018, 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, 2018, 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 6-13, the Schedule of Proportionate Share of the Net Pension Liability (Asset) on page 31, and the Schedule of Employer Contributions on page 32 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 financial statements. The Schedule of Operating Expenses listed in the Table of Contents is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The Schedule of Operating Expenses is the responsibility of management and was derived from and relates 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 Schedule of Operating Expenses 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 11, 2018 on our consideration of the Authority's internal control over financial reporting and 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

October 11, 2018

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS JUNE 30, 2018

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, 2018 (FY 2018). 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. 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, 2018

FINANCIAL HIGHLIGHTS:

- Total assets at year end decreased to \$108,034,245.
- Current Assets decreased by \$1,603,321, primarily due to the expenditure of funds from the cash accounts being held by the State Treasurer on behalf of the Authority. Yet, Accounts Receivable as of the June 30, 2018 statement is higher by \$1,320,919 for additional open receivables on contracts.
- Capital Assets decreased by \$2,875,100 net of depreciation expense. Page 10 details the major capital asset additions and deletions. Furthermore, page 21 summarizes the changes in capital assets by major categories. Notable changes include increases to Improvements in Progress for the LUX/Zeplin facility upgrades and the LZ water tank modifications. Also included is the completion of the Radon Removal Building and the improvements to the Surface Lab. Deletions include (3) boilers, (2) pumps, various other equipment including computer equipment that had reached end of life status. Also included in deletions is the support for the CASPAR Experiment Development that was finalized in fiscal year 2018.
- Net Pension Asset which was zero last year, increased to \$44,302. The State's retirement system is back to being fully funded (see Note 6 – page 23). The Authority's total contributions to the South Dakota Retirement System (SDRS) decreased slightly (down by \$40,714) from 2017 to 2018. 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, 2017 pension measurement date for our fiscal year end June 30, 2018 statements. Loans from various South Dakota Foundations have enabled the Authority to purchase xenon to be used in the future LZ experiment. As of June 2018, \$6,513,900 of xenon has been purchased. In summary, the Net Pension Asset and Xenon Purchased has increased by \$1,517,846.
- 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, 2017. The total Deferred Outflows of Resources equals \$4,795,625.
- Total liabilities at year end decreased to \$7,459,504. Accounts Payable is lower due to owing less for contractual services and materials when comparing the two time periods. Furthermore, liabilities decreased for the expiration of the deep pump system lease. Yet, liabilities increased for \$1,000,000 as an additional loan from the University of South Dakota Foundation for further xenon purchases. These loans from South Dakota foundations 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. The Net Pension Liability is reduced to zero as there is no longer a net pension liability. Last year's calculation showed the retirement system was only 96% funded where this year it is back to being 100% funded.
- Deferred Inflows of Resources is also related to our retirement plan with (SDRS). The recorded amount relates to our portion of the difference between projected and actual earnings on pension plan investments. Our portion equals \$851,742.
- Total restricted net position increased to \$15,621,051, primarily due to the increase in restricted net pension. However, the experiment funding set aside for xenon procurement and interest payments has decreased due to xenon procurements and LZ facility upgrades.
- Unrestricted net position increased by \$1,109,647 to \$6,786,171.
- Total net position at year end decreased by \$1,216,125 to \$104,518,624.
- Charges for Services decreased slightly to \$127,643. 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, 2018

FINANCIAL HIGHLIGHTS (Continued)

- Operating Grants decreased to \$22,734,706. The revenue received in this classification includes \$19,925,764 received from Fermi National Laboratory, \$2,614,194 from Lawrence Berkeley National Laboratory, and \$194,748 from the Great Plains Education Foundation and various smaller universities.
- Other Grants decreased to zero; as last year we received \$2,000,000 from GOED for xenon procurement and interest payment expenditures on loan agreements. That was the final funding for that support.
- Investment Earnings decreased slightly to \$36,585 compared to \$44,570 in the previous year as less funds were being held on behalf of the Authority by the State Investment Council.
- Total Program Expenses for the Authority were \$24,303,546 which represents a decrease of 15.48% percent from the previous year. This year's expenses includes \$994,989 for the finalization and expensing of the CASPAR Experiment Development. Also included in Total Program Expenses are Operating Expenses which decreased by \$5,575,271 to \$23,060,036. Of the total expenses in this category, the major expenses were personal services – 47.5 percent, contractual services – 34.2 percent, and supplies, materials, and other operating expenses – 8.5 percent. Most of the decrease in Operating Expenses is a result of no longer having the design contracts with Arup. These contracts were transferred to Fermi Research Alliance.
- Net position decreased by \$1,216,125 for fiscal year 2018.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

JUNE 30, 2018

FINANCIAL STATEMENT ELEMENTS:

NET POSITION

	2018	2017	Dollar Change	Percent Change
Current Assets	\$ 19,364,641	\$ 20,967,962	\$ (1,603,321)	-7.65%
Capital Assets	82,111,402	84,986,502	(2,875,100)	-3.38%
Net Pension Asset and Xenon Purchased	6,558,202	5,040,356	1,517,846	30.11%
Total Assets	108,034,245	110,994,820	(2,960,575)	-2.67%
Pension Related Deferred Outflows	4,795,625	4,174,730	620,895	14.87%
Net Pension Liability	-	1,698,193	(1,698,193)	-100.00%
Long-Term Liabilities Outstanding	5,541,864	4,512,117	1,029,747	22.82%
Other Liabilities	1,917,640	3,224,491	(1,306,851)	-40.53%
Total Liabilities	7,459,504	9,434,801	(1,975,297)	-20.94%
Pension Related Deferred Inflows	851,742	-	851,742	100.00%
Net Position:				
Net Investment in Capital Assets	82,111,402	84,780,100	(2,668,698)	-3.15%
Restricted	15,621,051	15,278,125	342,926	2.24%
Unrestricted	6,786,171	5,676,524	1,109,647	19.55%
Total Net Position	\$ 104,518,624	\$ 105,734,749	\$ (1,216,125)	-1.15%

CHANGE IN NET POSITION

	2018	2017	Dollar Change	Percent Change
Revenues				
Program Revenues:				
Charges for Services	\$ 127,643	\$ 150,969	\$ (23,326)	-15.45%
Operating Grants	22,734,706	25,690,909	(2,956,203)	-11.51%
Miscellaneous	188,487	144,049	44,438	30.85%
Other Grant Revenue	-	2,000,000	(2,000,000)	-100.00%
General Revenues:				
Investment Earnings	36,585	44,570	(7,985)	-17.92%
Total Revenue	23,087,421	28,030,497	(4,943,076)	-17.63%
Program Expenses:				
Science and Technology Authority	24,303,546	28,755,946	(4,452,400)	-15.48%
Total Expense	24,303,546	28,755,946	(4,452,400)	-15.48%
Change in Net Position	(1,216,125)	(725,449)	(490,676)	67.64%
Net Position-Beginning	105,734,749	106,460,198	(725,449)	-0.68%
Net Position-Ending	\$ 104,518,624	\$ 105,734,749	\$ (1,216,125)	-1.15%

By June 30, 2018, the Authority had invested \$82,111,402 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 \$82,111,402 (approximately 25% of this total value) was donated by Barrick Gold. This amount represents a net decrease (including additions and deductions) of \$2,875,100, or 3.4 percent, over the last year.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

JUNE 30, 2018

	<u>2018</u>	<u>2017</u>	<u>Change</u>
Improvements	\$ 30,514,601	\$ 31,043,734	\$ (529,133)
Underground	17,936,956	17,936,956	-
Buildings	6,205,356	5,751,477	453,879
Computer Equipment	124,844	124,464	380
Equipment	5,688,195	6,714,078	(1,025,883)
Construction in Progress	18,083,869	19,797,453	(1,713,584)
Land	1,814,136	1,814,136	-
Infrastructure	1,614,919	1,665,601	(50,682)
Furniture	24,972	29,962	(4,990)
Archive Material	70,000	70,000	-
Auto	33,554	38,641	(5,087)
Total Capital Assets	\$ 82,111,402	\$ 84,986,502	\$ (2,875,100)

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

Purchased Capital Assets:

Radon Removal Building	\$ 615,531
Computer Storage Network Array	38,555

Improvements (Current Year Additions & Reclassifications):

Science Surface Lab Improvements	461,088
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Improvements in Progress (Current Year Additions):

LZ Water Tank Modifications	123,442
LZ Underground Facility Upgrades	175,497

Equipment (Current Year Deletions):

Ross Headframe Building Boilers	(125,246)
Tsurumis Pump, Dry Ice Blast Unit	(40,029)
Locomotive Controller, 4850'L Refuge Chamber HVAC Units	(31,757)

Improvements in Progress (Current Year Deletions):

CASPAR Experiment Development	(915,139)
Ellison Bldg. Asbestos Abatement	(26,379)

Computer Equipment (Current Year Deletions)

Servers, Secure Access Systems (End of Life)	(41,773)
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SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

JUNE 30, 2018

LONG-TERM DEBT

At the year-end, the Authority had \$5,541,864 in other long-term obligations. This is an increase of 22.82 percent as shown below.

	2018	2017	Total Dollar Change	Total Percentage Change
Compensated Absences	\$ 541,864	\$ 495,922	\$ 45,942	9.26%
Capital Acquisition Lease	-	16,196	(16,196)	-100.00%
Xenon Notes Payable	5,000,000	4,000,000	1,000,000	25.00%
Total Long-Term Debt	\$ 5,541,864	\$ 4,512,118	\$ 1,029,746	22.82%

- (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 \$45,942 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 the University of South Dakota Foundation. Note (4) Long-Term Debt in the Notes to Financial Statements on page 22 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 2018 of \$4,677,160 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 Generation 2 LUX-Zeplin (G2-LZ) experiment. Additional projects included the Ellison Hill building asbestos abatement. Actual expenditures for the year totaled \$2,150,672. Actual expenses were lower than budgeted as not all projects are complete. The Authority's fiscal year 2019 capital budget provides for spending \$2,563,053. Projects include procurement of xenon for the LZ experiment, a small amount for inclinometer testing at the Sanford Homestake Visitor Center, and a small amount to finalize the Authority's support for the underground upgrades for the future G2-LZ experiment that will be located in the Davis Campus. 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 \$5,000,000 from the Foundations. The final \$1,000,000 from the South Dakota State University Foundation will be received in 2019. The Authority's Board of Directors also approved a budget of \$441,336 for fiscal year 2019 in favor of Authority supported activities.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

JUNE 30, 2018

ECONOMIC FACTORS (Continued)

- The SURF Services contract with Fermi National Accelerator Laboratory (FNAL) to manage and operate the facility for the federal fiscal year October 2017 – September 2018 originally was budgeted at \$14,600,637. Actual expenditures were \$14,256,531 through August 31, 2018. Actual expenditures have been higher than budgeted each month due to the personnel that were budgeted on the Ross Shaft rehabilitation subcontract currently working on the SURF Services contract work scope. A stop work command was issued in January for the Ross Shaft rehabilitation efforts due to a safety incident in the shaft. All steel installation is on hold with no access in the shaft except for authorized maintenance inspections until a slack rope/load monitoring system and a dogging system are installed. The slack rope/load monitoring system was installed by fiscal year end. The dogging system is scheduled to be installed in October 2018. Negotiations are in process to add additional funding for this unbudgeted expense. The Ross Shaft rehabilitation project funding continues with FNAL with the lifting of the stop work order in late September 2018.
- Further funding was received in fiscal year 2018 through LBNL in support of various small projects including the Large Underground Xenon (LUX) experiment that was completed during the year. Other small subcontracts supplied further funding to the Authority. Included was support for the Generation 2 LUX-Zeplin (G2-LZ) investigations as well as a geothermal analysis project labeled SIGMA-V. These awards reimbursed the Authority for expenses incurred in support of the various experiments for 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.
- 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 late 2018. The excavation for the two caverns to house the neutrino detectors and related utilities is expected to begin in 2020. DOE support for professional engineering management services continues into fiscal year 2019 for the LBNF project. 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, 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 2019 from these various universities.
- 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 2019.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

MANAGEMENT'S DISCUSSION AND ANALYSIS (CONCLUDED) JUNE 30, 2018

ECONOMIC FACTORS (Continued)

- 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 committed an additional \$275,000 toward education and outreach priorities for the period July 2017 – June 2018. Furthermore, the agreement was amended as of June 8, 2018 for \$275,000 for the period July 2018 – June 2019. The full period of performance now extends from June 2014 through June 2019. Funding for this agreement originated from a Letter Agreement #1524 between the SD Governor's Office of Economic Development (GOED) and the Authority. 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. The final support from Great Plains Education Foundation was received in July 2018 for fiscal year 2019 education program support.
- 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, 2018

ASSETS

Current Assets

Cash in Local Bank and Petty Cash	\$ 1,075,512
Cash on Deposit with State Treasurer	12,229,521
Accounts Receivable	3,199,732
Interest Receivable	50,211
Prepaid Expenses	402,815
Inventory of Supplies & Warehouse	2,406,850
Total Current Assets	19,364,641

Noncurrent Assets

Xenon Purchased (note 5)	6,513,900
Net Pension Asset	44,302
Land	1,814,136
Underground	17,936,956
Improvements in Progress	18,083,869
Buildings, Machinery, Equipment and Infrastructure (Net) (Note 3)	44,276,441
Total Noncurrent Assets	88,669,604

TOTAL ASSETS **108,034,245**

Deferred Outflows of Resources

Pension Related Deferred Outflows	4,795,625
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LIABILITIES

Current Liabilities

Accounts Payable	914,823
Accrued Wages and Benefits	460,953
Accrued Leave and Benefits (Note 4)	541,864
Total Current Liabilities	1,917,640

Long-Term Liabilities

Accrued Leave and Benefits Net of Current Portion (Note 4)	541,864
Long-Term Xenon Notes Payable (Note 4)	5,000,000
Total Long-Term Liabilities	5,541,864

TOTAL LIABILITIES **7,459,504**

Deferred Inflows of Resources

Pension Related Deferred Inflows	851,742
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NET POSITION

Invested in Capital Assets	82,111,402
Restricted for:	
Mine Closure	1,415,782
Experiments	2,587,769
Indemnification	7,500,000
Sanford Center for Science Education	129,315
Pension	3,988,185
Unrestricted Net Position	6,786,171

TOTAL NET POSITION **\$ 104,518,624**

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, 2018**

Operating Revenue

Charges for Goods and Services	\$	127,643
Operating Grants		22,734,706
Miscellaneous		188,487
Total Operating Revenue		23,050,836

Operating Expenses

Personal Services		10,942,922
Travel		192,226
Contractual Services		7,889,189
Supplies, Materials and Other Operating Expenses		1,962,446
Amortization Expense		94,154
Depreciation Expense		1,979,099
Total Operating Expenses		23,060,036

Operating Loss (9,200)

Nonoperating Revenues/Expenses

Interest Revenue		36,585
Other Expense		(1,243,510)
Total Nonoperating Revenues/Expenses		(1,206,925)

Change in Net Position (1,216,125)

Net Position -- Beginning of Year 105,734,749

Net Position -- End of Year \$ **104,518,624**

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, 2018**

Cash Flows from Operating Activities:

Other Operating Cash Receipts	\$	307,365
Cash Receipts from Operating Grants		21,422,553
Cash Payments to Employees for Services		(12,373,149)
Cash Payments to Suppliers of Goods and Services		(10,159,254)
Net Cash Used in Operating Activities		(802,485)

Cash Flows from Noncapital Financing Activities:

Proceeds from Xenon Notes Payable		1,000,000
Xenon Purchases		(2,298,544)
Interest/Insurance Paid on Xenon		(107,500)
Grants & Donations Paid		(90,414)
Net Cash Used in Noncapital Financing Activities		(1,496,458)

Cash Flows from Capital and Related Financing Activities:

Proceeds from Sale of Capital Assets		3,500
Purchase of Capital Assets		(346,707)
Principal Paid on Capital Debt		(94,154)
Interest Paid on Capital Debt		(3,346)
Net Cash Used in Capital and Related Financing Activities		(440,707)

Cash Flows from Investing Activities:

Interest Earnings		30,358
Net Cash Provided by Investing Activities		30,358

Net decrease in Cash and Cash Equivalents **(2,709,292)**

Cash and Cash Equivalents at Beginning of Year 16,014,325

Cash and Cash Equivalents at End of Year **\$ 13,305,033**

Reconciliation of Operating Loss to Net Cash Used in Operating Activities:

Operating Loss	\$	(9,200)
<i>Adjustments to Reconcile Operating Loss to Net Cash Used in Operating Activities:</i>		
Depreciation & Amortization Expense		2,073,253
Previous Construction in Progress Expensed		26,380
<i>Change in Assets and Liabilities:</i>		
Receivables		(1,320,919)
Prepaid Expenses		185,714
Inventory of Supplies		2,271
Net Pension Asset		(44,302)
Decrease(Increase) in Deferred Outflow of Resources - Pension		(620,895)
Increase (Decrease) Deferred Inflow of Resources - Pension		851,742
Accounts and Other Payables		(329,757)
Net Pension Liability		(1,698,193)
Accrued Wages Payable		(10,464)
Accrued Leave Payable		91,885
Net Cash Used in Operating Activities	\$	(802,485)

Continued on next page

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

**STATEMENT OF CASH FLOWS (CONTINUED)
FOR THE YEAR ENDED JUNE 30, 2018**

Cash and Cash Equivalents:

Cash in Local Bank	\$	1,075,462
Petty Cash		50
Cash with State Treasurer		12,229,521
Total Cash and Cash Equivalents	\$	13,305,033

Non-Cash Capital and Related Financing Activities:

Loss on Disposal of Assets	\$	38,394
Donation of Capital Assets	\$	915,139
Write off of Capital Lease	\$	112,248
Transfer of Fixed Assets to Inventory	\$	49,293
Write off of Inventory	\$	81,030

The accompanying notes are an integral part of this statement.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS

JUNE 30, 2018

(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, 2018

(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, 2018

(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 Authority's 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. As of June 30, 2018, the Authority's deposits in financial institutions were exposed to custodial credit risk, but by an immaterial amount. This issue was resolved in July.

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, 2018.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)
JUNE 30, 2018

(3) Changes in Capital Assets

A summary of changes in capital assets for the year ended June 30, 2018 is as follows:

	Balance June 30, 2017	Reclassified*	Increases	Decreases	Balance June 30, 2018
Business-Type Activities:					
Capital Assets, not Being Depreciated:					
Land	\$ 1,814,136	\$ -	\$ -	\$ -	\$ 1,814,136
Underground	17,936,956	-	-	-	17,936,956
Archive Materials	70,000	-	-	-	70,000
Construction Work in Progress (Note 9)	19,797,453	(2,012,523)	298,939	-	18,083,869
Total Capital Assets, not Being Depreciated	39,618,545	(2,012,523)	298,939	-	37,904,961
Capital Assets, Being Depreciated:					
Equipment Under Capital Lease	883,945	-	-	883,945	-
Automobiles	108,962	-	-	-	108,962
Buildings	7,505,086	612,029	3,502	-	8,120,617
Furniture	74,212	-	-	-	74,212
Computer Equipment	434,784	-	38,554	41,773	431,565
Improvements	37,052,179	458,976	2,112	-	37,513,267
Infrastructure	1,958,862	-	-	-	1,958,862
Machinery and Equipment	10,899,565	(101,558)	-	203,043	10,594,964
Total Capital Assets, Being Depreciated	58,917,595	969,447	44,168	1,128,761	58,802,449
Total Capital Assets, Before Depreciation	98,536,140	(1,043,076)	343,107	1,128,761	96,707,410
Less Accumulated Depreciation:					
Equipment Under Capital Lease	677,543	-	94,154	771,697	-
Automobiles	70,321	-	5,087	-	75,408
Buildings	1,753,609	-	161,652	-	1,915,261
Computer Equipment	310,320	-	38,174	41,773	306,721
Furniture	44,250	-	4,990	-	49,240
Improvements	6,008,445	-	990,221	-	6,998,666
Infrastructure	293,261	-	50,682	-	343,943
Machinery and Equipment	4,391,889	(52,265)	728,293	161,148	4,906,769
Total Accumulated Depreciation	13,549,638	(52,265)	2,073,253	974,618	14,596,008
Capital Assets, Net	\$ 84,986,502	\$ (990,811)	\$ (1,730,146)	\$ 154,144	\$ 82,111,402

*Reclassifications are due to the Authority performing analysis of assets that were previously grouped in construction work in progress as well as CASPAR Experiment Development costs transferred as contributions. Various items were transferred to buildings, improvements, and equipment and placed in service as of June 30, 2018.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)
JUNE 30, 2018**

(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	\$ 991,843	\$ 571,127	\$ 479,242	\$ 1,083,728	\$ 541,864
Xenon Notes Payable	4,000,000	1,000,000	-	5,000,000	-
Capital Acquisition Lease	206,402	-	206,402	-	-
	<u>\$ 5,198,245</u>	<u>\$ 1,571,127</u>	<u>\$ 685,644</u>	<u>\$ 6,083,728</u>	<u>\$ 541,864</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 31, 2026. Also see Note 8. \$ 5,000,000

Capital Acquisition Lease

The lease for the deep level pump system from AmWest, Inc. - Hydro Resources terminated as of December 31, 2017. The lease was due in monthly installments of \$35,000 per month. The Interest Rate was 4%. Also see Note 8. \$ -

This lease met the criteria to be called a capital lease; however, since the payments on this lease are funded under the Department of Energy contract through Fermi Research Alliance(FRA), title now vests with FRA rather than with the Authority. The asset was being fully depreciated over the term of the lease and has been removed from the books as of the end of the lease.

The annual requirements to amortize long-term debt outstanding as of June 30, 2018, are as follows:

	Xenon Notes Payable		Totals	
	Interest	Principal	Interest	Principal
2019	\$ 125,000	\$ -	\$ 125,000	\$ -
2020	125,000	-	125,000	-
2021	125,000	-	125,000	-
2022	125,000	-	125,000	-
2023	125,000	-	125,000	-
2024-2027	425,000	5,000,000	425,000	5,000,000
Total	<u>\$ 1,050,000</u>	<u>\$ 5,000,000</u>	<u>\$ 1,050,000</u>	<u>\$ 5,000,000</u>

(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 \$6,513,900 as shown by the detail below.

Fiscal Year	# of Liters	Total Cost	Average Cost/Liter
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
2018	260,000	1,473,544	5.67/liter
Total Purchased	1,080,295	\$ 6,513,900	\$ 6.03/liter

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

JUNE 30, 2018

(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 1st 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

The 2017 legislation modified the COLA, effective for the July 1, 2018 increase:

- Baseline actuarial accrued liabilities will be calculated assuming the COLA is equal to the long-term inflation assumption of 2.25%.
- If the fair value of assets is greater or equal to the baseline actuarial accrued liabilities, the COLA will be:
 - The increase in the 3rd quarter CPI-W, no less than 0.5% and no greater than 3.5%.
- If the fair value of assets is less than the baseline actuarial accrued liabilities, the COLA will be:
 - The increase in the 3rd quarter CPI-W, no less than 0.5% and no greater than a restricted maximum such that, that if the restricted maximum is assumed for future COLA's, the fair value of assets will be greater or equal to the accrued liabilities.
 - The increase in the 3rd quarter CPI-W, no less than 0.5% and no greater than a restricted maximum such that, that if the restricted maximum is assumed for future COLA's, the fair value of assets will be greater or equal to the accrued liabilities.

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

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

JUNE 30, 2018

(6) Retirement/Pension Plan (Continued)

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

Contributions:

Per SDCL3-12, contribution requirements of the active employees and the participating employers are established and may be amended by the SDRS Board. 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, 2018, 2017, and 2016 was \$554,398, \$595,112, and \$573,626, respectively, equal to the required contributions each year.

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

At June 30, 2017, SDRS is 100.10% funded and accordingly has a net pension asset. The proportionate share of the components of the net pension asset of the South Dakota Retirement System for the Authority as of the measurement period ending June 30, 2017 and reported by the Authority as of June 30, 2018 are as follows:

Proportionate share of pension liability	\$ 56,797,959
Less Proportionate share of net pension restricted for pension benefits	<u>56,842,261</u>
Proportionate share of net pension liability (asset)	<u>\$ (44,302)</u>

At June 30, 2018, the Authority reported a liability (asset) of \$ (44,302) for its proportionate share of the net pension liability (asset). The net pension liability (asset) was measured as of June 30, 2017, 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, 2017, the Authority's proportion was .4881662% which is a decrease of .0145698% from its proportion measured as of June 30, 2016.

For the year ended June 30, 2018, the Authority recognized pension expense (reduction of pension expense) of \$(1,511,648). At June 30, 2018, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

JUNE 30, 2018

(6) Retirement/Pension Plan (Continued)

	<u>Deferred Outflows Of Resources</u>	<u>Deferred Inflows Of Resources</u>
Difference between expected and actual experience	\$ 709,833	\$ -0-
Changes in assumption	3,439,743	-0-
Net Difference between projected and actual earnings on pension plan investments		851,742
Changes in proportion and difference between Authority contributions and proportionate share of contributions	91,651	-0-
Authority contributions subsequent to the measurement date	<u>554,398</u>	<u>-0-</u>
 TOTAL	 <u>\$ 4,795,625</u>	 <u>\$ 851,742</u>

\$554,398 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, 2019. 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:

<u>Year Ended June 30:</u>	
2019	\$ 937,289
2020	1,530,787
2021	1,118,317
2022	<u>(196,908)</u>
TOTAL	<u>\$ 3,389,485</u>

Actuarial Assumptions:

The total pension liability (asset) in the June 30, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.25 %
Salary Increases	Graded by years of service, from 6.50% at entry to 3.00%
Discount Rate	6.50% net of plan investment expense

Mortality rates were based on 97% of the RP-2014 Mortality Table, projected generationally with Scale MP-2016, white collar rates for females and total dataset rates for males. Mortality rates for disabled members were based on the RP-2014 Disabled Retiree Mortality Table, projected generationally with Scale MP-2016.

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

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

JUNE 30, 2018

(6) Retirement/Pension Plan (Concluded)

(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, 2017 (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%	4.8%
Fixed Income	30.0%	1.8%
Real Estate	10.0%	4.6%
Cash	<u>2.0%</u>	0.7%
Total	<u>100%</u>	

Discount Rate:

The discount rate used to measure the total pension liability (asset) was 6.50%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that matching employer contributions 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 6.50% 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 (5.50%) or 1-percentage point higher (7.50%) than the current rate:

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Authority’s proportionate share of the net pension liability (asset)	\$ 8,113,828	\$ (44,302)	\$ (6,687,672)

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, 2018, 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.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2018

(7) Risk Management (Continued)

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.

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:

From the policy renewal date of June 1, 2017 through December 1, 2017, the Authority continued to purchase workmen's compensation through the South Dakota Worker's Compensation Insurance Plan. As of December 2, 2017, the Authority purchases liability insurance for worker's compensation coverage from a commercial insurance carrier. 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 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 (SLHVC) 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 satisfied 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

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED) JUNE 30, 2018

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

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 construction material laydown space for the LBNF and DUNE projects. The “Ellison Hill” property was purchased in May 2017. The cost of this remediation was shared equally by the Authority and Homestake Mining Company per the purchase agreement. With additional change orders, the contract amount was decreased to \$302,319. Remediation of the property was completed in November 2017. At fiscal year end, a balance of \$129,315 remained as Gift No. 2 funds. This will be used for operations and support for the underground laboratory space at SURF.

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. The lease expired on December 31, 2017, at which time the leased property became the property of the lessee without any additional payment per the contract. It became the property of the Federal Government as these capital asset-type costs are being charged direct to the subcontract with FRA. An additional contract was entered into with Hydro Resources for the purchase and installation of a replacement deep level pump system for the future when the current pump needs replacement. This contract has a current cost of \$394,750 extending to December 17, 2020.

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 the contract total is \$999,334 and was finalized in November 2017. This project is located at the 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 \$147,832 and \$119,181 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 \$115,000; comparable to last year’s actual water 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. Additional amendments to this lease executed in June 2017 and May 2018 (Amendment #1 and Amendment #2) added additional space in the Ross Dry Facility in support of the Long

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)

JUNE 30, 2018

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

Baseline Neutrino Facility. 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.

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 both the South Dakota Community Foundation and the University of South Dakota Foundation, as well as \$1,000,000 from 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 440,000 liters at a total price of \$2,420,000 with Praxair Distribution.

(9) Construction Work in Process

The Authority accumulates the costs of construction projects in Construction Work in Progress until the projects are completed and/or placed in service. Some of the ongoing improvement projects are capitalized as they progress. The \$18,083,868 of construction work in progress at June 30, 2018, consisted of \$17,665,235 of accumulated costs for the Ross Shaft rehabilitation project and \$418,633 for LZ facility upgrades. 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, 2018 is \$153.00 for LZ facility upgrades to be paid for using current funds that have been redirected from the Sanford Gift #2.

(10) Continuing Operations

The DOE's 2019 budget proposal includes approximately \$18 million to fund basic operations at the Sanford Lab including additional underground support for LBNF/DUNE during construction. This funding continues through Fermi National Accelerator Laboratory (FNAL). Modification #16 was recently signed to extend the period of performance through June 30, 2019. Further negotiations are in process for continued funding to finalize the Ross Shaft project. Additionally, Authority support for the LUX/Zeplin experiment engineering support and installation efforts has been extended to September 2020 with a current year budget of \$1,232,176.

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

NOTES TO FINANCIAL STATEMENTS (CONTINUED)
JUNE 30, 2018

(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 \$539,000 and extends to January 15, 2022. For the period of July 1, 2017 – June 30, 2018, he was paid \$67,982.63 for his consulting services. Mr. Wheeler will assist in directing the state and federal government affairs programs for the Authority.

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 *

	2018	2017	2016	2015
Authority's proportion of the net pension liability (asset)	0.4881662%	0.5027360%	0.5089089%	0.5287996%
Authority's proportionate share of net pension liability (asset)	\$ (44,302)	\$ 1,698,193	\$ (2,158,428)	\$ (3,809,788)
Authority's covered employer payroll	\$ 9,596,007	\$ 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	0.46%	18.35%	23.87%	42.86%
Plan fiduciary net position as a percentage of the total pension liability (asset)	100.10%	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 EMPLOYER CONTRIBUTIONS

South Dakota Retirement System

Last 10 Fiscal Years *

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Contractually required contribution	\$ 554,398	\$ 595,112	\$ 573,626	\$ 557,420
Contributions in relation to the contractually required contribution	<u>554,398</u>	<u>595,112</u>	<u>573,626</u>	<u>557,420</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Authority's covered-employee payroll	\$ 8,995,993	\$ 9,596,007	\$ 9,256,007	\$ 9,042,866
Contributions as a percentage of covered-employee payroll	6.16%	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:

Legislation enacted in 2017 modified the SDRS COLA. For COLAs first applicable in 2018, the SDRS COLA will equal the percentage increase in the most recent third calendar quarter CPI-W over the prior year, no less and 0.5% and no greater than 3.5%. However, if the Fair Value Funded Ratio (FVFR) assuming the long-term COLA is equal to the baseline COLA assumption (currently 2.25%) is less than 100%, the maximum COLA payable will be limited to the increase that if assumed on a long-term basis, results in FVFR equal to or exceeding 100%. That condition exists this year and limits the maximum COLA payable in 2018 to 1.89%.

Legislation was also enacted in 2017 to:

- Modify the definition of Compensation to clarify included and excluded items,
- Expand the caps on Increases in Compensation considered in Final Average Compensation,
- Extend the Final Average Compensation period from the current three years to five years for Foundation Members after a phase-in period, and
- Limit Compensation to the Internal Revenue Code Section 401(a)(17) limits for all Members, regardless of date of entry into SDRA.

Changes of assumptions:

As a result of an experience analysis covering the period from July 1, 2011 to June 30, 2016, significant changes to the actuarial assumptions were recommended for the SDRA Senior Actuary and adopted by the Board of Trustees first effective for this June 30, 2017 Actuarial Valuation. The changes to economic assumptions were very significant, and included reducing the inflation assumption to 2.25%, reducing the investment return assumption to 6.5% and reducing the payroll growth assumption to 3.00%. The demographic assumption changes were less impactful. Among those changes were new mortality assumptions, updated retirement, termination and disability rates and updated salary increase assumptions.

The Actuarial Asset Valuation Method was changed to the Fair Value of Assets, in addition, the Funding Method was changed from the Frozen Entry Age Actuarial Cost Method to the Entry Age Actuarial Cost Method, which was in use for GASB Statement Nos. 67 and 68 purposes.

SUPPLEMENTARY INFORMATION

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

**SCHEDULE OF OPERATING EXPENSES
FOR THE YEAR ENDED JUNE 30, 2018**

Personal Services		
Employee Salaries	\$	8,057,995
Employee Benefits		2,884,927
Total Personal Services		10,942,922
Travel		
Meals and Lodging		40,328
Auto and Fleet Services		41,283
Air - Commercial and Charter		39,232
Incidentals to Travel		3,718
Non-Employee Travel		67,481
Meals (Not Overnight)		184
Total Travel		192,226
Contractual Services		
Equipment Rental		142,745
Contractual - Other		3,973,876
Insurance		426,881
Lobbying		215,000
Computer Services		265,224
Telecommunications		52,795
Monitoring and Programming		56,622
Legal Consultant		105,202
Training		46,558
Consultant Fees - Accounting and Auditing		19,613
Promotion and Advancement		25,042
Dues and Memberships		5,250
Utilities		2,022,028
Maintenance and Repairs		532,353
Total Contractual Services		7,889,189
Supplies, Materials and Other Operating Expenses		
Maintenance and Repairs		857,822
Other Supplies and Equipment		998,284
Other Expenses		5,009
Office Supplies and Equipment		19,836
Safety		492
Licenses and Permits		39,443
Workshop and Registration Fees		37,234
Postage		3,190
Bank Charges		1,136
Total Supplies, Materials and Other Operating Expenses		1,962,446
Amortization Expense		94,154
Depreciation Expense		1,979,099
Total Operating Expenses	\$	23,060,036

**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 07

Financial Report—Mr. Mike Headley

Attached are the Financial Report and Summaries for February 2019.

Recommended Action:

Motion to accept the Financial Report as presented.

DIVISION: ALL

BALANCE SHEET

LIABILITIES & EQUITY

		AS OF 02/28/19

CURRENT LIABILITIES		
Accounts Payable	\$	857,053.32
Other Payables		9,310.79

Total Accounts Payable		866,364.11
Accrued Payroll Liab		1,561,978.30

Total Current Liabilities		2,428,342.41
OTHER LIABILITIES		
LT Xenon Notes Payable		6,000,000.00
Pension Deferred Inflows		851,741.96

Total Other Liabilities		6,851,741.96
EQUITY		
Restricted: Indemnificati		7,500,000.00
Restricted: Lab		4,000,000.00
Restricted: Mine Closure		1,432,739.47
Restricted: Sanford Gift2		97,378.97
Restricted: Pension		3,988,185.11
Restricted: Experim. Int.		2,423,278.00

Total Restricted Funds		19,441,581.55
Investment in Gen FA		80,899,708.22
Unrestricted Funds		7,908,857.77

Total Equity		108,250,147.54
		=====
TOTAL LIABILITIES & EQUITY	\$	117,530,231.91
		=====

DIVISION: ALL

BALANCE SHEET

ASSETS

AS OF
02/28/19

CURRENT ASSETS

First Interstate Checking	\$	1,932,626.04
First Interstate Other		4,017.86

Total in Local Checking		1,936,643.90
SD Treas: Indemnification		7,500,000.00
SD Treas: Mine Closure		1,432,739.47
SD Treas: Operating		582,758.01
SD Treas: Sanford Gift #2		97,378.97
SD Treas: Spec Sess - Lab		4,000,000.00
SD Treas: Experiments		2,522,824.35

Total with SD Treasurer		16,135,700.80
Billed A/R		2,581,520.09
Unbilled A/R		519,128.63
Other A/R		(20,799.02)
Inventory - Supplies		2,347,065.98
Inventory - Warehouse		29,442.66
Other Current Assets		567,139.48

Total Current Assets		24,095,842.52

FIXED ASSETS

Land, Underground & Other		12,633,473.13
Bldgs & Infrastructure		10,079,478.68
Improvements		62,661,312.62
Computer Equipment		431,565.17
Equipment & Fixtures		10,971,944.11
Accum Depr & Amort		(15,878,065.49)

Total Fixed Assets		80,899,708.22

OTHER ASSETS

Work in Process		1,180,853.71
Pension Deferred Outflows		4,839,927.07
Xenon Purchased		6,513,900.39

Total Other Assets		12,534,681.17

TOTAL ASSETS

	\$	117,530,231.91
		=====

ALL

STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/19

	YR-TO-DATE
REVENUE	
DOE Subcontracts	\$ 16,183,760.23
NSF/NASA Subcontracts	21,580.98
State Revenue	4,004,092.42
Contributions & Donations	125,000.00
Checking Interest	2,237.39
Interest Income	94,295.50

TOTAL REVENUE	20,430,966.52
DIRECT COSTS	
Direct Labor	4,032,560.30
Board of Directors	8,153.64
Capital Outlay >\$5K	1,712,655.06
Contractual Svcs	1,264,675.44
Inventory	124,561.37
Supplies	684,837.89
Travel - Domestic	26,825.92
Travel - Foreign	13,023.72
Utilities	1,270,775.07
Other Direct Costs	17,744.85
Unallow/Unbill Costs	227,461.25

TOTAL DIRECT COSTS	9,383,274.51
INDIRECT COSTS	
Fringe Benefits	2,904,009.67
Overhead	4,542,022.77

TOTAL INDIRECT COSTS	7,446,032.44

GROSS PROFIT/LOSS () FROM OPERATIONS	3,601,659.57

OTHER INCOME	
Water Treatment	110,586.19
Miscellaneous Income	39,981.81
Other Operating Income	8,665.18

TOTAL OTHER INCOME	159,233.18
OTHER EXPENSES	
Loss (Gain) on Sale of FA	29,369.42
Reclass Incr Net Assets	(1,211,694.18)

TOTAL OTHER EXPENSES	(1,182,324.76)

NET INCOME/LOSS ()	\$ 4,943,217.51
	=====

DIVISION: ALL

COMPARATIVE BALANCE SHEET

ASSETS

	AS OF 02/28/19	AS OF 02/28/18	\$ CHANGE	% CHANGE
CURRENT ASSETS				
First Interstate Checking	\$ 1,932,626.04	\$ 1,084,929.96	\$ 847,696.08	78.13%
First Interstate Other	4,017.86	10,769.70	(6,751.84)	-62.69%
	-----	-----	-----	-----
Total in Local Checking	1,936,643.90	1,095,699.66	840,944.24	76.75%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,432,739.47	1,415,782.17	16,957.30	1.20%
SD Treas: Operating	582,758.01	480,685.27	102,072.74	21.23%
SD Treas: Sanford Gift #2	97,378.97	322,567.97	(225,189.00)	-69.81%
SD Treas: Spec Sess - Lab	4,000,000.00	-	4,000,000.00	100.00%
SD Treas: Experiments	2,522,824.35	2,815,505.86	(292,681.51)	-10.40%
	-----	-----	-----	-----
Total with SD Treasurer	16,135,700.80	12,534,541.27	3,601,159.53	28.73%
Billed A/R	2,581,520.09	1,551,593.70	1,029,926.39	66.38%
Unbilled A/R	519,128.63	445,029.44	74,099.19	16.65%
Other A/R	(20,799.02)	93,806.67	(114,605.69)	-122.17%
Inventory - Supplies	2,347,065.98	2,416,621.40	(69,555.42)	-2.88%
Inventory - Warehouse	29,442.66	31,154.64	(1,711.98)	-5.50%
Other Current Assets	567,139.48	684,491.92	(117,352.44)	-17.14%
	-----	-----	-----	-----
Total Current Assets	24,095,842.52	18,852,938.70	5,242,903.82	27.81%
FIXED ASSETS				
Land, Underground & Other	12,633,473.13	12,633,473.13	-	0.00%
Bldgs & Infrastructure	10,079,478.68	10,079,478.68	-	0.00%
Improvements	62,661,312.62	63,427,334.26	(766,021.64)	-1.21%
Computer Equipment	431,565.17	431,565.17	-	0.00%
Equipment & Fixtures	10,971,944.11	10,827,646.09	144,298.02	1.33%
Accum Depr & Amort	(15,878,065.49)	(13,977,099.05)	(1,900,966.44)	13.60%
	-----	-----	-----	-----
Total Fixed Assets	80,899,708.22	83,422,398.28	(2,522,690.06)	-3.02%
OTHER ASSETS				
Work in Process	1,180,853.71	1,530,780.25	(349,926.54)	-22.86%
Equipment - Capital Lease	-	-	-	0.00%
Pension Deferred Outflows	4,839,927.07	4,174,730.00	665,197.07	15.93%
Xenon Purchased	6,513,900.39	5,040,356.11	1,473,544.28	29.23%
	-----	-----	-----	-----
Total Other Assets	12,534,681.17	10,745,866.36	1,788,814.81	16.65%
	=====	=====	=====	=====
TOTAL ASSETS	\$ 117,530,231.91	\$ 113,021,203.34	\$ 4,509,028.57	3.99%
	=====	=====	=====	=====

DIVISION: ALL

COMPARATIVE BALANCE SHEET

LIABILITIES & EQUITY

	AS OF 02/28/19	AS OF 02/28/18	\$ CHANGE	% CHANGE
CURRENT LIABILITIES				
Accounts Payable	\$ 857,053.32	\$ 821,193.93	35,859.39	4.37%
Other Payables	9,310.79	11,495.76	(2,184.97)	-19.01%
	-----	-----	-----	-----
Total Accounts Payable	866,364.11	832,689.69	33,674.42	4.04%
Accrued Payroll Liab	1,561,978.30	1,359,084.15	202,894.15	14.93%
	-----	-----	-----	-----
Total Current Liabilities	2,428,342.41	2,191,773.84	236,568.57	10.79%
OTHER LIABILITIES				
LT Accrued EB/Lease	-	-	-	0.00%
LT Xenon Notes	6,000,000.00	4,000,000.00	2,000,000.00	50.00%
Pension Deferred Inflows	851,741.96	1,698,193.00	(846,451.04)	-49.84%
	-----	-----	-----	-----
Total Other Liabilities	6,851,741.96	5,698,193.00	1,153,548.96	20.24%
	-----	-----	-----	-----
TOTAL LIABILITIES	9,280,084.37	7,889,966.84	1,390,117.53	17.62%
EQUITY				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Lab	4,000,000.00	-	4,000,000.00	100.00%
Restricted: Mine Closure	1,432,739.47	1,415,782.17	16,957.30	1.20%
Restricted: Sanford Gift2	97,378.97	322,567.97	(225,189.00)	-69.81%
Restricted: Pension	3,988,185.11	2,476,537.00	1,511,648.11	61.04%
Restricted: Experim. Int.	2,423,278.00	2,753,584.00	(330,306.00)	-12.00%
	-----	-----	-----	-----
Total Restricted Funds	19,441,581.55	14,468,471.14	4,973,110.41	34.37%
Investment in Gen FA	80,899,708.22	83,422,398.28	(2,522,690.06)	-3.02%
Unrestricted Funds	7,908,857.77	7,240,367.08	668,490.69	9.23%
	-----	-----	-----	-----
TOTAL EQUITY	108,250,147.54	105,131,236.50	3,118,911.04	2.97%
	=====	=====	=====	=====
TOTAL LIABILITIES & EQUITY	\$ 117,530,231.91	\$ 113,021,203.34	\$ 4,509,028.57	3.99%
	=====	=====	=====	=====

COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/19

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 16,183,760.23	\$ 13,809,335.80	\$ 2,374,424.43	17.19%
NSF/NASA Subcontracts	21,580.98	15,275.86	6,305.12	41.28%
State Revenue	4,004,092.42	1,226.96	4,002,865.46	326242.54%
Contributions & Donations	125,000.00	125,000.00	-	0.00%
Checking Interest	2,237.39	1,147.95	1,089.44	94.90%
Interest Income	94,295.50	84,677.74	9,617.76	11.36%
TOTAL REVENUE	20,430,966.52	14,036,664.31	6,394,302.21	45.55%
DIRECT COSTS				
Direct Labor	4,032,560.30	4,431,603.69	(399,043.39)	-9.00%
ERT Labor	-	54,358.22	(54,358.22)	-100.00%
Board of Directors	8,153.64	5,149.79	3,003.85	58.33%
Capital Outlay >\$5K	1,712,655.06	307,773.93	1,404,881.13	456.47%
Contractual Svcs	1,264,675.44	1,656,712.25	(392,036.81)	-23.66%
Inventory	124,561.37	112,150.56	12,410.81	11.07%
Supplies	684,837.89	654,734.61	30,103.28	4.60%
Travel - Domestic	26,825.92	39,187.34	(12,361.42)	-31.54%
Travel - Foreign	13,023.72	10,938.08	2,085.64	19.07%
Utilities	1,270,775.07	1,361,090.65	(90,315.58)	-6.64%
Other Direct Costs	17,744.85	125,168.82	(107,423.97)	-85.82%
Unallow/Unbill Costs	227,461.25	230,437.28	(2,976.03)	-1.29%
TOTAL DIRECT COSTS	9,383,274.51	8,989,305.22	393,969.29	4.38%
INDIRECT COSTS				
Fringe Benefits	2,904,009.67	2,716,777.50	187,232.17	6.89%
Overhead	4,542,022.77	3,192,620.19	1,349,402.58	42.27%
TOTAL INDIRECT COSTS	7,446,032.44	5,909,397.69	1,536,634.75	26.00%
GROSS PROFIT/LOSS ()	3,601,659.57	(862,038.60)	4,463,698.17	517.81%
OTHER INCOME				
Water Treatment	110,586.19	69,110.16	41,476.03	60.01%
Miscellaneous Income	39,981.81	249,788.87	(209,807.06)	-83.99%
Other Operating Income	8,665.18	4,803.70	3,861.48	80.39%
TOTAL OTHER INCOME	159,233.18	323,702.73	(164,469.55)	-50.81%
OTHER EXPENSES				
Loss (Gain) on Sale of FA	29,369.42	65,176.46	(35,807.04)	-54.94%
Reclass Incr Net Assets	(1,211,694.18)	(1,357,701.40)	146,007.22	-10.75%
TOTAL OTHER EXPENSES	(1,182,324.76)	(1,292,524.94)	110,200.18	-8.53%
NET INCOME/LOSS ()	\$ 4,943,217.51	\$ 754,189.07	\$ 4,189,028.44	555.43%

South Dakota Science & Technology Authority
Available Resources
2/28/2019

Cash Total Checking	\$ 1,932,626
Cash With State Treasurer	<u>\$ 16,135,701</u>
Total Cash	\$ 18,068,327
Less: Restricted Funds	
Indemnification/Mine Closure/Special Session Lab	\$ (12,932,739)
Experiments (Xenon, Interest, Infrastructure)	<u>\$ (2,522,824)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 2,612,764
Plus: Accounts Receivable Billed	\$ 2,581,520
Accounts Receivable Unbilled	\$ 519,129
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (2,428,187)</u>
(not including accts. pay. for Experiment funding)	
Available Cash	<u><u>\$ 3,285,226</u></u>

SDSTA CAPEX Budget Summary FY18/19
Actual vs Budget
February 2019 & YTD

Budget Area	Actual Month	FY2018 Monthly Budget	\$ Over/Under Budget	% of Budget	Actual YTD	FY2018 YTD Budget	\$ Over/Under Budget	% of Budget	% Remaining
									100.00%
Operational CAPEX	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%
TOTAL CAPEX	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%

SD Science & Technology Authority
Operational CAPEX Budget
YTD FY2019 Actual vs Budget

Project #	Project Description	Feb. 2019 YTD	FY2019 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 13,602.41	\$ 5,400.00	\$ (8,202.41)	251.90%	-151.90%
CAP2016-02	LX Surface/UG Facility Upgrades	\$ -	\$ 153.00	\$ 153.00	0.00%	100.00%
CAP2016-03	LZ Xenon Gas	\$ 1,167,251.30	\$ 2,557,500.00	\$ 1,390,248.70	45.64%	54.36%
CAP2019-01	Maintenance Support Facility	\$ -	\$ 2,000,000.00	\$ 2,000,000.00	0.00%	100.00%
	Totals	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%

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

Project #	Project Description	Feb. 2019	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Displays/Monitoring	\$ 155.00	\$ -	\$ (155.00)	0.00%
CAP2016-02	LX Surface/UG Facility Upgrades	\$ -	\$ -	\$ -	0.00%
CAP2016-03	LZ Xenon Gas	\$ 923.45	\$ 500.00	\$ (423.45)	184.69%
CAP2019-01	Maintenance Support Facility	\$ -	\$ -	\$ -	0.00%
	Monthly Totals	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%

Executive Director's Report—Mr. Mike Headley

The Executive Director's Report includes the following:

8A. SDSTA quarterly update—informational.

- Declarations of Surplus Property (2)—misc items, attached (informational).
- ManagerPlus update—presentation by the SDSTA's Facilities Department Technical Coordinators Jaye Conrad and Brooke Anderson.

8B. Science update—presentation by Science Director Dr. Jaret Heise.

Recommended Action:

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

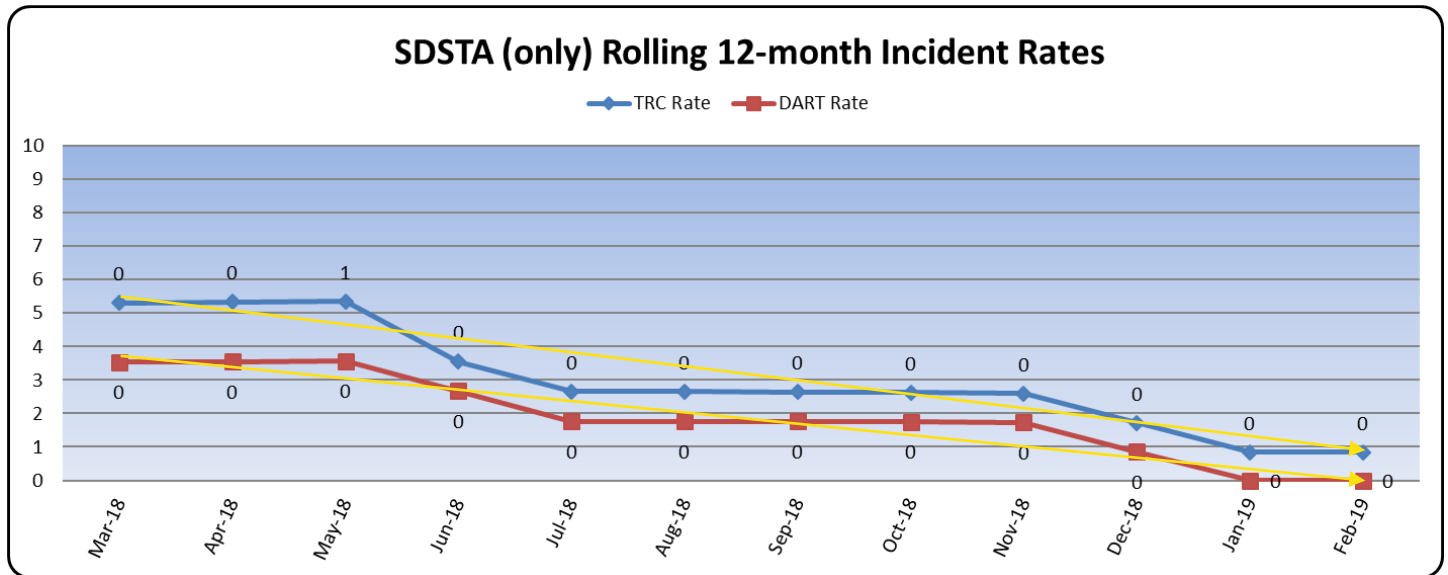
February Monthly Progress Report
Submitted March 13, 2019

Submitted to:
Fermi Research Alliance, LLC
Fermi National Accelerator Laboratory
Subcontract No. 629760
and
South Dakota Science and Technology Authority Board of Directors

Submitted by Mike Headley
SDSTA Executive Director
Sanford Underground Research Facility Laboratory Director

Environment, Safety and Health Status

Health and Safety Status



Note: Recordable incident monthly totals are shown in chart above.

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 2019 DARTS/TRC

- No events to report.

February 2019 First Aid Cases

- No events to report.

February 2019 Category 1 or 2 Events

- No events to report.

February 2019 Category 3 Events

- 2/15: Experiment Procedural Violation. Human Performance Improvement (HPI) investigation underway.
- 3/2: Ross Shaft Operational Disruption. HPI investigation underway.

Health and Safety Support

- Quality Assurance/Quality Control Manager selected and position accepted.
- Ten of 12 Emergency Response Team (ERT) full-time positions have been filled.

Work Accomplishments

- All SDSTA supervisors were assigned the Reasonable Suspicion Training (Drugs and Alcohol).
- ESH Director Larry Jaudon and Experiment Health and Safety Manager Julie Ewing participated in the Department of Energy (DOE) LZ Review via teleconference.
- The ESH Department participated in a live Facebook event for *Wear Red Day* to promote Heart Health Awareness.
- A new Explosive Management Chapter is being drafted. The Fall Prevention Chapter is being rewritten.
- The Safety and Support Perception Survey was conducted and the final report is under compilation.

- The new ERT members are undergoing extensive position matrix training.
- Fatigue Management Training information was included in the General Safety Basic and Annual Refresher Training course syllabus.
- The Hazard Communication Plan is under review.

Upcoming Activities/Training

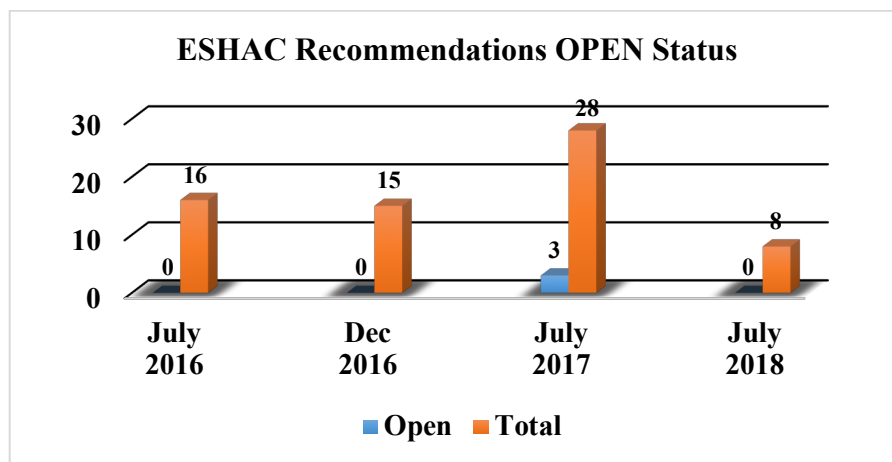
- Annual Hazwoper Training (March 7)
- Crosby Rigging Class (March 18-19)
- Emergency Preparedness Fair (June 1)
- Develop a Train the Trainer – Guide Training Chapter
- Rewrite the Radon Chapter
- Update Functional Job Analysis for job requirements
- Develop a Disablement and Impairment Permitting Process

Environmental, Safety and Health

- The January 2019 Discharge Monitoring Report (DMR) was prepared and signed. There were zero violations.
- The draft National Pollution Discharge Elimination System (NPDES) Permit from South Dakota Department of Environment and Natural Resources (SD-DENR) has not been received.
- Data continues to be collected for stationary emissions sources.
- The Tier 2 report was prepared and submitted to SD-DENR.
- The Machine Shop asbestos and lead abatement contractor bid submittals were reviewed.
- In support of the facility infrastructure improvement program, a draft Environmental Evaluation Notification Form and draft Categorical Exclusion exemption were submitted to DOE for review. This work is in anticipation of receiving a Categorical Exclusion from the National Environmental Policy Act (NEPA) for these projects.
- A list of the 2019 construction projects was prepared for South Dakota Historical Preservation and the Fermi Site Office review.
- The 90% LBNF-DUNE pre-construction design drawings and attachments were reviewed.
- The 1st Quarter Whole Effluent Toxicity Test was completed.
- The Ross Headframe asbestos and lead abatement program was reviewed and several meetings were attended to facilitate this project.

Third Party Review Recommendations Status

- Next Environment, Safety and Health Advisory Committee (ESHAC) Review is scheduled for June 4-6, 2019.



Facility Operations Status

Yates Shaft

Work Accomplishments

- A total of 147 loads were handled through the shaft.
- Top Down Maintenance corrected 156 conditions for the month with a focus near the 3950L station.

- Turnbuckles were installed between the 2900L.
- Air door and water wall were inspected at every station.

Upcoming Activities

- Installation of turnbuckles will continue.
- Planning is in progress for beginning Top Down Maintenance in the utility compartments later in the year.

Underground Hazard Mitigation

Work Accomplishments

- Ground support installation in the 4850L 17 Ledge drift continued.
- Crews continued maintaining the 4850L 17 Ledge shop area and ramp.
- Removal of the former neutrino experiment tanks in No. 9 Ledge is progressing.

Upcoming Activities

- Installation of ground support will continue in the 4850L No. 17 Ledge drift.
- Work will also continue in the 4850L No. 9 Ledge exhaust ventilation pathway.

Davis and Ross Campus

Work Accomplishments

- Quarterly air handling equipment and fire alarm preventive maintenance activities continued with vendors.

Upcoming Activities

- Maintenance activities will be ongoing.

Surface Facilities

Work Accomplishments

- The SDSTA completed all seven (7) day, thirty (30) day, and annual (360) day preventative maintenance activities. Boart drill and jackleg repairs continue.
- In support of our recycling efforts, ten gaylords of material were accumulated and shipped off site. An additional five gaylords were filled with recycle material. The bearing lube oil was changed on the Yates Cage Hoist.

Upcoming Activities

- Preventive maintenance activities will continue.
- Winter operations will continue.

Dewatering

Work Accomplishments

- Preventative maintenance was performed on pumps and pumping apparatus. Installation of the six-inch Yates sump discharge line continued. Installation of the pressure reducing manifolds on the 4850L continued.

Upcoming Activities

- Continue trouble shooting pressure reducing manifold.
- Scheduled preventative maintenance activities will continue.
- Planning and preparations will continue for the Yate sump pump vertical discharge line.

Waste Water Treatment Plant (WWTP)

Work Accomplishments

- At the end of February, the water level in the underground pool was at 5,634 feet. The net gain for the month was twenty-eight feet.
- Modifications to the control system to allow specific functions to be operated from off-site advanced as planned, limiting the number of off hour call-outs to one in February. The WWTP has not discharged any water to the sanitary sewer for over 1,015 days. The team continues to balance water sources to manage temperatures.

Upcoming Activities

- Pumping continues to be increased to decrease the level of the underground pool.
- Prepare for the second quarter Whole Effluent Toxicity (WET) test.

Transportation and Mobile Equipment

Work Accomplishments

- 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.

Upcoming Activities

- Repairs on walk behind skid steers and the two-yards loader located on the 4850L will continue.
- Snow removal equipment will continue to be maintained during the winter months.

Electrical and Cyber Infrastructure

Work Accomplishments

- The team continues review and modify the underground communications infrastructure to ensure each level has voice over IP (VoIP) and FEMCO (i.e. twisted pair) phones at each underground facility level. Various preventative maintenance activities were performed. Power was extended to the No. 9-11 Ledge on the 4850L to support the underground maintenance crew.

Upcoming Activities

- Installation of electrical components associated with the underground Radon Reduction System will continue.
- Camera upgrades to the pump rooms and the Waste Water Treatment Plant will continue.
- Assist and familiarize contractors with site conditions as it pertains to the LBNF project.

Engineering Support

Work Accomplishments

- The final report from Albertson Engineering was completed on Yates Headframe foundation structural review. There were no major concerns found during the analysis. Crack monitoring devices have been deployed as part of a longer term monitoring program.
- Examination and development continued of the critical spares list for the entire Sanford Lab property to include adding items into the Work Management System. An abbreviated plan was completed for the Facilities and Infrastructure (F&I) document and complete plan description.
- Interactions continued with FRA/FESS Engineering Department on the Ross Waterline and Ross Crusher Building Roof Strengthening projects. Both projects have their design and specifications completed. A DOE funding decision is anticipated by mid-March.
- The design was completed for a portable tugger foundation to be used at the Yates Headframe for future rope cuts.
- WWTP footings were designed to place a Jib crane to allow maintenance staff to safely lift pumps out of a sump.

Upcoming Activities

- The Scope of Work was completed to upgrade of the Davis Campus chiller and bid the contract.
- The review was completed of the LBNF 90% Buildings and Site Infrastructure design to ensure key interfaces with SURF infrastructure systems are adequately addressed.

Science Support Status

- SDSTA Research Scientist Markus Horn and researchers participated in a weekend FNAL Open House event by video. SDSTA Experiment Support Scientist Mark Hanhardt presented to Mechanical Engineers at South Dakota School of Mines and Technology (SDSM&T).
- Fatigue management training was rolled out to research groups – first to CASPAR and LZ to clarify specific policy criteria and then to all others.
- Facility highlights: Annual preventive maintenance was conducted by the services contractor for heat and smoke sensors and alarm systems at the 4850L campuses (changes to the work schedule caused some minor confusion);

hardware was also provided for SDSTA personnel to install to resolve trouble alarms in a few cases. A dedicated SDSTA Motor Operator has been assigned to the 4850L. A bootwash was installed in the West Drift to improve cleanliness in the proximity of the Davis Campus entrance.

- Interruptions: A small leak was repaired in one of the chiller compressors for the Davis Campus dehumidifier (minimal impact).

LUX-ZEPLIN—LZ

- Checkout of both photomultiplier tube (PMT) arrays is now complete (100% operational), and the associated cabling and final mechanical assembly (including additional PTFE reflectors, fluid lines, etc.) is almost complete at the Surface Laboratory.
- Major elements of both the cryogenics and xenon handling systems are either underground or being installed in March. An operational readiness review for these systems is planned for May at SURF.
- Leak testing of the outer cryostat vessel inside the Davis Cavern water tank is underway.
- Installation continues for electronics items such as crates and servers.
- A rigid guardrail was installed around the grating opening above the Davis Cavern water tank; during the installation, a worker aggravated a previous hand injury.
- Preparations for the DOE review of operations in March at SURF are in place.

MAJORANA DEMONSTRATOR—MJD

- Regular maintenance was performed on the three Davis Campus electroforming baths.
- Shield purge rate tests were conducted over several weeks, and initial results are consistent with expectations.
- The vacuum system associated with Module 1 was cycled and purged to address the possible scenario that accumulated gases may be contributing to fluctuations.
- Germanium detector components (coldfingers, preamps) were removed from underground storage for shipment offsite. Germanium remnants being stored underground from earlier detector production was brought to the surface for (ground) transportation to Oak Ridge National Lab (ORNL), where it will be used to make detectors for LEGEND-200.
- Chemistry equipment (bottles and vials) was leached in nitric acid, with a portion shipped for use at the University of North Carolina (UNC).

Low-Background Counting

Black Hills State University Underground Campus—BHUC:

- Assays of LZ samples continue using four low-background counters (LBCs). On the order of 200 samples have been processed using BHUC instruments so far, with more than 500 samples remaining to be counted over the next 2 years (the majority of which will be counted using BHUC counters). (To date, a total of 1490 samples have been counted for LZ using different methods across all facilities.)
- Requirements for Ge-IV full operations were advanced with University of South Dakota (USD) personnel onsite as well as a SURF walk-through inspection conducted by Engineering and ESH personnel. With some personnel authorized as SURF Radiation Users, a set of calibration sources was moved into the storage safe at BHUC in preparation for use in the near future.
- There were additional iterations with SDSTA engineers on the mechanical safety document for the USD/UNC/SDSMT MALBEK LBC.

SIGMA-V

- Water flow tests resumed after borehole flange repairs in January, but issues remain with insufficient flow at various notch locations between the injection and production holes. Reversing pressurization/stimulation from production to injection holes did not initially result in higher flow rates.
- During stimulation, a packer string failed, and a new packer string was installed to allow flow testing to resume.
- Hard drives were swapped out in early March. To date, 380 TB of data have been collected.
- With the LBNL subcontract in place, SURF crews mobilized to the 4100L to begin site preparations (initially removing/securing legacy utilities followed by the installation of new ground support). The drilling of two holes on the 4100L (and one on the 4850L) is expected to begin in April.
- Discussions continue regarding supplemental measurements using an atomic dielectric resonance technique.

Annual Work Plan Variances

- Underrun of ~\$260k in February on SURF Services.
- Labor underrun in February was largely due to unfilled positions (as experienced all year) and delayed large purchases.
- ERT positions are nearly all filled; variance should improve in that area as work begins.
- Utilities are very close to plan for the year.
- March has three pay periods; overrun is expected there.

Financial Status

Included in the Financial Report are the following:

- SDSTA SURF Services FY2019 SPA Curve as of February 2019 (included as Appendix B, end of the report)
- SDSTA Staffing Plan by Funding Source as of February 2019 (included as Appendix C, end of the report)
- Financial Summary (included as Appendix D, end of the report)
 - 1) Balance Sheet as of February 2019
 - 2) Comprehensive Statement of Income February 2019
 - 3) Comparative Balance Sheet – February 2019 vs. February 2018
 - 4) Comparative Statement of Income – February 2019 vs. February 2018
 - 5) Available Resources as of February 2019
 - 6) Operating Budget Summary
 - 7) CAPEX Budget Summary
 - 8) February 2019 and YTD CAPEX Budget – actual vs. budget

SDSTA SURF Services FY2019 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 September 2019 along with information related to Funded-to-Date dollars, Scheduled dollars, Performed dollars and Actual dollars by month. The subcontract has been extended through June 2019 with the option to continue through September 2019. Actual dollars represent actual invoices for the months sent to Fermi Research Alliance LLC (FRA) for reimbursement. For February, the invoices totaled \$1,171,705 which is lower than the anticipated reimbursements of \$1,429,597 by \$257,892. Cumulative expenses are at \$36,118,561 which is lower than the budgeted \$37,973,543 by \$1,854,982.

Balance Sheet Items

- Cash in Local Checking—Total on hand at February 28, 2019 was \$1,936,644; down from last month by \$291,119. 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 \$16,135,701. This balance has decreased from last month by 284,424 as this amount was drawn down during February.
- 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 \$2,581,520; up from last month by \$155,849. Included in the balance are open invoices to LBNL for \$396,929; representing invoices for the Large Underground Xenon (LUX) subcontract and LUX-ZEPLIN (LZ) engineering support, LZ Operations contract and LZ Construction contract. Additional open invoices include \$2,163,116 from Fermilab primarily from the SURF Services subcontract and the Ross Shaft Rehabilitation work. Additionally, there are open receivables for \$7,916 from small university subcontracts, Barrick/Homestake for \$12,457, and \$1,102 from Xilinx, Inc., the commercial organization that has established an experiment located near the 4850L Davis Campus.
- Unbilled A/R—Balance at \$519,129. Unbilled A/R represents items that have not been billed on various contracts. The payroll from pay end date February 22 (paid on March 1, 2019) was not invoiced in February on various contracts. The amounts will be invoiced in March. February's balance has increased by \$30,542.
- Other A/R—Current balance of \$(20,799). This balance represents any Interest Receivable and Miscellaneous Accounts Receivable. The balance increased by \$13,446. This balance includes the adjusting entry on the unrealized depreciation on undistributed earnings on the funds held with the State as of June 30, 2018. Activity for this month includes recording the interest accrual for February.

- Inventory/Supplies—Balance at \$2,347,066 for fixed assets being stored but not in service. This balance is unchanged from last month.
- Inventory Warehouse/Personal Protective Equipment (PPE)—Current balance of \$29,443. This balance represents the warehouse inventory that was purchased by SDSTA prior to federal funding. The balance has decreased by \$9 for current month usage.
- Other Current Assets—This listing on the balance sheet represents the balances of both prepaid insurance—\$457,194 and prepaid other—\$109,945. Total balance of \$567,139 is lower from last month by \$18,085. This decrease represents the net of the monthly insurance expense and the expensing of various prepaid items in February.
- Fixed Assets—Total of \$80,899,708 (net of depreciation through February 2019). The net decrease of \$160,755 is for the current month's depreciation.
- 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 \$1,079 to \$1,180,854.
- 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 now fully funded. The Net Pension Asset is a restricted asset. Thus, the equity created is also restricted. The balance Pension Deferred Outflows shown as a noncurrent asset is \$4,839,927 created by FY2018 final entries.
- Xenon Purchased—Balance of \$6,513,900 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 2018. The balance is unchanged from last month.
- Total Assets—Total of \$117,530,232. This balance has decreased from last month by \$553,476; which represents the net activity as listed above.
- Accounts Payable—Our Total Accounts Payable balance of \$866,364 at the end of the month compared to last month has decreased by \$263,167. This decrease is primarily attributed to no longer owing for the \$275,000 shipment of xenon in January.
- Accrued Payroll Liabilities—Current balance of \$1,561,978 has increased by \$44,139 from last month. This represents the net change between earned vacation and vacation taken and other changes in employee benefit-related liabilities.
- Long Term Xenon Notes Payable—This designation represents \$2M of funding received from the South Dakota Community Foundation (SDCF), \$2M received from the University of South Dakota Foundation (USDF) and \$2M received from the South Dakota State University Foundation (SDSUF). The \$6,000,000 balance is designated for purchasing xenon for experiment use at Sanford Lab. The balance is unchanged from last month.
- Pension Deferred Inflows—This classification reflects the requirements of GASB No. 68 and No. 71, as discussed earlier. The balance of \$851,742 represents our portion of the difference between projected and actual earnings on pension plan investments with the South Dakota Retirement System.
- Total Liabilities—Total Liabilities decreased by \$219,028 (from \$9,499,112 to \$9,280,084), which reflects the net activity listed above.
- Total Equity—Decrease to \$108,250,148 from the previous month \$108,584,596.
- Total Liabilities & Equity—Decrease to \$117,530,232 from the previous month of \$118,083,709.

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 Lawrence Berkeley National Lab (LBNL), Fermi National Accelerator Lab (FNAL), as well as a small contract for the MAJORANA project with Oak Ridge National Lab (ORNL). Total revenue through February 2019 is \$16,183,760 (increase from January of \$1,915,829).
- National Science Foundation (NSF)/National Aeronautics & Space Administration (NASA) Subcontracts—Total revenue through February 2019 from this funding is \$21,581 (increase from January of \$2,339). The balance represents revenue from the South Dakota School of Mines and Technology (SDSMT) for CASPAR.
- State Revenue -Year-to-date State Revenue equals 4,004,092. This includes the \$4,000,000 received in October from State Future Funds for construction of a new maintenance support facility as well as funds received from a small subcontract from Black Hills State University.

- 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 \$94,296. 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 \$9,383,275 for the current fiscal year. Indirect Costs including fringe benefits are at \$7,446,032. Costs are lower than revenue by \$3,601,660 primarily because of the \$4,000,000 receipt from State Future Funds.
- Other Income is at \$159,233, which represents miscellaneous income received from Xilinx and small amounts from Barrick.
- Net income through February after Reclass Increase in Net Assets is at \$4,943,218. \$4,000,000 of this relates to the Future Funds that will be spent later.

Comparative Balance Sheet

- Total in Local Checking is higher by \$840,944 primarily due to receiving more funds from contracts in Accounts Receivable when comparing the two time frames.
- Total Cash with State Treasurer is higher by \$3,601,160 from this time last year as we received State Future Funds of \$4,000,000 (as discussed earlier) as well as the final \$1,000,000 for xenon from South Dakota State University Foundation.
- Billed A/R is higher by \$1,029,926 when comparing the two-time frames. This increase is primarily the result of our indirect cost rate increase from 26% to 48.7%. This change was requested by FRA and the DOE Site Office. They have requested that we shift the Executive Director, the ESH Department including Security, and the positions of General Maintenance and Warehouse Specialist to the Indirect Cost category.
- Total Fixed Assets are lower by \$2,522,690 when comparing the two-time frames for the donation of the CASPAR Experiment Development and for additional depreciation.
- Xenon Purchased has increased by \$1,473,544 for the purchases made during fiscal year 2018.
- In summary, Total Assets have increased by \$4,509,029.
- Total LT Xenon Notes Payable are higher by \$2,000,000 for the additional notes from two foundations.
- Total Equity has increased by \$3,118,911 from this time last year.
- Restricted Funds and Unrestricted Funds are higher when comparing the two-time frames. Yet, Investment in General Fixed Assets is lower than this same time last year primarily due to the finalization of the CASPAR Experiment Development agreement during the 2018 fiscal year. This amount of \$994,989 is no longer being carried as Improvements in Progress.
- In summary, Total Liabilities & Equity have increased by \$4,509,029.

Comparative Profit/Loss

- Total Revenue for year-to-date February 2019 compared to year-to-date February 2018 has increased by \$6,394,302. DOE subcontract revenue has increased by 17.2%. This reflects the increase in the indirect cost rate as discussed earlier. State Revenue has increased by slightly over \$4,000,000 for the receipt of State Future Funds. Direct Labor has decreased when comparing the two-time frames because of the shift of some personnel (as discussed earlier) to indirect labor. Consequently, overhead has increased for this change. Direct Costs and Indirect Costs for year-to-date February 2019 compared to this time last year show a combined increase of \$1,930,604 (a 12.9% increase). This increase includes \$897,000 of xenon purchased for LNBL that is funded by Berkeley. Other Income is lower for the comparative time periods as last year we had received funding for the Davis Bahcall education program early in the year as well as shared funding from Barrick for asbestos abatement at the Ellison Hill property. Net Income/Loss for the comparative time periods shows an increase in income of \$4,189,028 (primarily due to the Future Funds receipt).

Available Resources

- This report reflects our available cash/accounts receivable after noting the restricted cash balances in the Indemnification, Mine Closure, and Special Session Lab 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 receivables as many of the items in accounts payable are invoiced on our current contract. \$3,285,226 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 report 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 2019 by \$77,895.
- Year-to-date figures are under budget by \$1,957,525. This Year-to-date underrun is partially due to the budget not being rebaselined with the shift of personnel to indirect until the month of October. The budget has been rebaselined as of October 2018—the start of the 2019 federal fiscal year.

Capital Expenditure Budget Analysis

- Our current capital expenditure projects have been condensed and are listed from CAP2014-01—CAP2019-01 with various breaks in the numbering sequence. The additional project for the Maintenance Support Facility (funded by the \$4M Future Funds) was added this month. Total project dollars have increased to \$4,563,053 with the addition of \$2M to be expended this fiscal year on this new project. A small amount remains for the Sanford Lab Homestake Visitor Center project particularly for continuing to monitor the ground movement.
- Funding for the LZ Surface & Facility Upgrades and LZ Xenon Gas Purchase was secured from the GOED granting \$6,000,000. 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. Approximately 240,000 liters of xenon are still to be received.
- In January, we spent \$1,078 on our CAPEX projects which is very close to the budgeted \$500. Year-to-date we have spent \$1,180,854 on these projects.

Human Resources

There are currently 141 full time employees and 11 temporary staff, primarily Emergency Response Team members. Infrastructure Technicians Jerry Hinker and David Leatherman accepted full time ERT positions. Additional full time ERT positions have been filled by Nicole Nemmers and Andrew Pisciotta. Positions for a Quality Assurance/Quality Control Manager, Electrical Engineer, additional ERT members, two Infrastructure Technicians (to backfill Jerry and David's positions) and an Underground Operations Engineer are being recruited.

Ross Shaft Rehabilitation - Subcontract No. 630223

PO No. 645509—hoist motor testing

PO No. 645673—rock resistivity

Ross Shaft Rehabilitation

Work Accomplishments

- Installation of brattice began.
- Site visits by KAJV-FRA were conducted for design and project purposes.
- Installation of a 200-amp 480-volt panel at 5000L pump room was completed.

Upcoming Activities

- Washers will be inspected.
- Brattice installation will continue.

Rock Resistivity

Work Accomplishments

- None.

Upcoming Activities

- None.

Professional Staff Services - Subcontract No. 607915

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

- A proposal was developed and submitted to FRA for SDSTA support on the rehabilitation of the Ross Hoist Bearings and Bushings that will be rebuilt as part of enhancing system reliability.
- A staff-wide review was completed of the 90% Excavations design—the final opportunity for input into the design. This included participating in a Review Conference at Fermilab and a FRA/KAJV/SDSTA Executive Partnering session.
- The Engineering team assisted LBNF in the development of a Scope of Work (SOW) for the Oro Hondo VFD/E-House installation contract. The VFD is under contract and manufacturing and testing is nearing completion.
- An historical electrical drawing was updated for the Ross ore hoist as part of a risk analysis for the appropriate methodology for rehabilitation of the hoist drive motors.

LZ - Subcontract No. 7255146

LZ Operations - Subcontract No. 7355146

LZ Davis Infrastructure Construction - Subcontract No. 7351116

Other Experiment Support LUX-ZEPLIN (LZ)

- Final details of the Xe Tower and Vacuum Pumping Electrical Control Panels were resolved in preparation of manufacturing. The manufacturing of these panels is scheduled to be completed and shipped by early March.
- The acquisition requirement details were completed for a service plan by Stirling Cryogenics, located in England, to complete the installation/commissioning of the cryocooler underground. A PO is being finalized.
- Liquid Nitrogen (LN) dewars have been staged in the storage room and LN vacuum jacketed piping has been installed in cavern.
- The test Cryostat was transported to the underground and was assembled and processes through extensive leak checking protocols.
- One of the SDSTA mechanical engineers, Jake Davis, traveled to the University of Wisconsin's Physical Sciences Lab to support and assist in the troubleshooting and repair of the Xe compressors.
- The remaining calibration tube ports and tie bar ports on the Outer Cryostat Vessel (OCV) lid were leak checked. The lid was set in its final position on top the OCV base. All seals have been tested and checked against rate of rise requirements.

Indirect Funded Activities Status

Contracts Status

Department of Energy (DOE) subcontracts to SDSTA

Fermi Research Alliance

- Subcontract No. 630223-Ross Shaft Rehabilitation: SDSTA received Supplemental Agreement 26 to add \$533,991 for additional mucking to 23-feet and tail drift, extension through January 18, 2020.
- Subcontract No. 630223-Ross Shaft Rehabilitation: SDSTA received a Limited Notice to Proceed not to exceed \$500,000 for brattices scope in advance of Supplemental Agreement No. 27.

Lawrence Berkeley National Laboratory

- Subcontract No. 7255146 – LZ: Modification No. 19 added \$372,064.65 in incremental funding.
- Subcontract No. 7371823 – SIGMA-V: SDSTA received Modification No. 4 with an increase of \$112,484.76.

Summary of Contracts Awarded by SDSTA in February:

Contract No.	Contractor/Vendor	Type	Project
2015-25	Overhead Door	CO#6	Inspection & repair services
2018-30	Situ Fabrication, Inc.	CO #1	Sanford Lab Homestake Visitor Center sculptural model repair
2019-02	Midcontinent Testing Laboratories	New Contract	Sampling various sites (ESH)
2015-18	North Central Supply, Inc.	CO#4	Doors, Locks, Gates, Hardware & Controls Service Agreement
2018-06	RW Henn LLC	CO#1	Semi-annual Underground Access Review
2014-27	KT Connections, Inc.	CO#5	General services
2018-A	Sage Consulting	Amend #2	Strategic and tactical planning
2017-11	Bickmore	CO#6	Risk management consulting services
2018-11	Safety Kleen	CO#2	Hazardous waste recycling
2017-26	CVD	CO#21	General services
2018-32	Horsley Specialties, Inc.	New Contract	Machine Shop asbestos/lead paint removal
2019-06	Anderson Environmental	New Contract	Machine Shop asbestos air monitoring machine shop
2017-13	Professional Mapping & Surveying	CO#8	General services - surveying & mapping
2017-38	The Alaris Group, Inc.	CO#3	Onsite occupational health nurse

Purchase Orders (POs): 179 POs were issued in February totaling \$571,994.90.

Warehouse Inventory: Warehouse inventory on February 28, 2019 totaled \$199,336.

Education and Outreach (E&O) Status

Cultural and Diversity

- Cultural Diversity Coordinator KC Russell and E&O Deputy Director Peggy Norris visited middle school classes at American Horse School at the invitation of the South Dakota Gaining Early Awareness and Readiness for Undergraduates Program (GEAR-UP) Coordinator for the school.
- KC gave a talk about Sanford Lab at the Senior Center in Sturgis.

K-12 Education and Outreach

Curriculum units

- Table 1 below lists the details for the 499 students who completed units in February.
- Activities from the new neutrino unit, *Ghost Particles*, were tested in February with fifth grade students who came to visit Sanford Lab as part of the *Starbase* program.

Table 1. Curriculum Units Completed – February 2019

Unit	School	City	Grade or Course (high school)	Total No. of students
As a Matter of Fact	Hermosa	Hermosa	2	16
	West	Spearfish	2	196
Creature Features	Atall	Union Center	K-3	6
	South Park	Belle Fourche	1	55
Exploring the Unseen	Corral Drive	Rapid City	5	90
	Hill City	Hill City	4	38
	Horace Mann	Rapid City	4	25
May the Force Be With You	Ipswich	Ipswich	5	32
Seismic Science	Atall	Union Center	4-8	7
	Big Horn Middle	Big Horn, WY	6	34
	9 schools		13 teachers	499 students

Classroom presentations

- Table 2 below lists details for the 15 presentations given by staff and contract teachers in February. A total of 461 students were in attendance in Allen, Douglas and Hermosa.

Table 2. Classroom Presentations – February 2019

School/City	Presenter	Grade(s)	No. of presentations	Total No. of students
Francis Case (Douglas) / Box Elder	KR	K-1	7	246
Badger Clark (Douglas) / Box Elder	KR	1	3	120
Hermosa / Hermosa	JD	2	1	16
American Horse / Allen	PN	6-8	4	79
4 schools			15 programs	461 students

*JD = Julie Dahl**PN = Peggy Norris**KR = Kathy Rose*

Field trips to Sanford Lab

- In February, field trips to Sanford Lab were scheduled as the capstone experience for fifth graders who completed the Starbase program. Weather conditions resulted in three of the four groups (from Piedmont (2), New Underwood and Edgemont) being hosted at the Sanford Lab Homestake Visitor Center (SLHVC).
- The E&O Department partnered with Black Hills State University (BHSU) to host two middle school (Lead-Deadwood and Spearfish) robotics teams for their annual competition. Two more schools will compete in March.

Other K-12

- Science Education Specialist Becky Bundy represented Sanford Lab at the annual Sturgis Brown High School Career Fair.

Professional Development (PD)

- The online PD course for 30 inservice teachers continued throughout February.
- E&O Director Deb Wolf and Science Education Specialist Julie Dahl presented at the statewide STEM Ed Conference (formerly the SD Math and Science Teachers Conference) in Huron. Following the conference, they facilitated the second of four South Dakota Math and Science Teacher Leadership weekend training sessions.
- Peggy presented three training sessions (one in Rapid City and two in Sioux Falls) for presenters at upcoming Women in Science Days in those two cities.

Undergraduate

- Interviews of finalists for the Davis-Bahcall Scholars program took place on February 19-20. Eight students were offered participation in the program and all have accepted.
- Interviews for Sanford Lab 2019 summer internships began in late February. Final selections should be made by the middle of March.

Table 3. Total Impact – February 2019

Group	Students						Educators			Public	
	Pre-K	K-5	6-8	9-12	Undergrad	Graduate	K-12 Educator	Univ. Faculty / Staff	Informal	Parents	General Public
<i>Field Trips /Onsite Activities</i>											
Piedmont (Starbase)	0	45	0	0	0	0	2	0	6	0	0
BHSU Robotics	0	3	15	0	8	0	4	0	0	0	0
Subtotal	0	48	15	0	8	0	6	0	6	0	0
<i>Curriculum Units</i>											
Subtotal	0	461	38	0	0	0	13	0	0	0	0
<i>Assembly Presentations</i>											
Subtotal	0	382	79	0	0	0	0	0	0	0	0
<i>Other Offsite Activities</i>											
Sturgis Senior Center	0	0	0	0	0	0	0	0	0	0	25
Piedmont2 (Starbase)	0	59	0	0	0	0	4	0	1	1	0
NewUnderwood (SB)	0	20	0	0	0	0	2	0	2	0	0
Edgemont (SB)	0	11	0	0	0	0	1	0	2	0	0
STEM ED (2 presentations)	0	0	0	0	0	0	48	1	0	0	0
WIS Training (x3)	0	0	0	0	0	1	0	7	2	0	17
Sturgis Career Fair	0	0	0	53	0	0	5	0	0	0	0
Subtotal	0	90	0	53	0	1	60	8	7	1	42
Total	0	981	132	53	8	1	79	8	13	1	42
GRAND TOTAL: 1,318 students, educators and members of the public											

Communications Status

- Communications (with other departments) is finalizing site visit guidelines.
- Communicaitons is working with the Business Services Department to finalize Neutrino Day contracts.
- Updates to the SLHVC exhibits are being discussed, beginning with the photo frieze.
- Communications participated in the first Robotics Competition.
- Communications is participating in ongoing fundraising discussions.
- Work on the Communications section of the Strategic Plan is going forward.
- An internal communications plan is being developed.
- Updates to the website and digital signage continue.
- Regular communications meetings with Fermilab and LBNF/DUNE are being attended.
- The Communications team continues to develop the Cultural Awareness and Diversity webpage.
- The crisis communications plan is being updated in consultation with members of the ESH Department.

Community Outreach/Media/Site Visits/Presentations/tours

- Deep Talks was held February 14 with more than 70 people in attendance.
- Sanford Lab participated remotely in the Fermilab Open House February 10 (with MJD).
- KOTA TV interviewed Sanford Lab's Executive Director Mike Headley.
- A presentation was given to the Lead Kiwanis Club.
- Black Hills Pioneer reporter visited Sanford Lab and interviewed scientists and others.
- Leo A. Daly visited Sanford Lab for a photography shoot with LZ.
- Communications continues to work with Keloland TV to develop three videos about Sanford Lab.

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

- Deep Talks: Pi Day will be held March 14 at the SLHVC.
- KOTA/KEVN will return to Sanford Lab to interview WWTP Foreman Ken Noren and Fermilab South Dakota Services Division Head Patrick Weber.
- Communications will participate in the next Robotics Competition (March 20).
- The Marshall Fund Group will visit Sanford Lab on March 22 (surface only).

Video, Web, Graphics

- New features are being created and all experiment pages are being updated for the Sanford Lab website.
- Fresh content is being created weekly for all social media platforms.
- Albums in the Sanford Lab Photo Gallery may be viewed at: <http://pics.sanfordlab.org>.
- Stories for Deep Thoughts, updates to the website, general web maintenance, digital signage content; media assistance, and science collaborations and educational institutions assistance with photographic and information needs are ongoing.

The February Communications Photos are included as Appendix A.

News coverage

Note: The Rapid City Journal and Black Hills Pioneer continue to re-run Deep Thoughts stories weekly.

- [What's the matter? Grand Junction company supplies tanks for fundamental experiment](#), by Phil Castle, the Business Times, Jan. 23, 2019
- [Sanford Lab custodian finds joy in comic art](#), by Erin Broberg, Rapid City Journal, Feb. 14, 2019
- [Sanford Lab observing American Heart Month](#), by Erin Broberg, Rapid City Journal, Feb. 14, 2009
- [Give the gift of life](#), by Erin Broberg, Rapid City Journal, Feb. 13, 2019

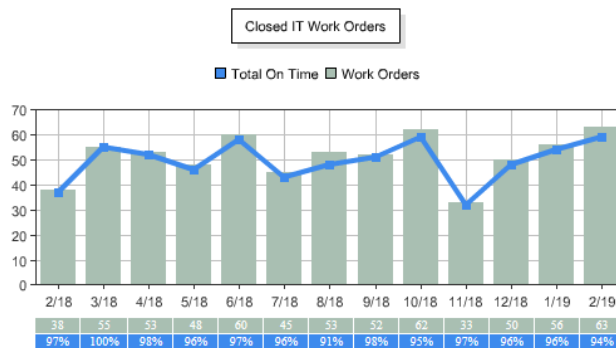
Information Technology Status

Projects

- IT upgraded the SDSTA phone system, adding a new cabinet and line cards to accommodate additional phones for the Fermilab Ross offices. In addition, 15 new phones were programmed for the Fermilab Ross offices.
- IT is working with Fermilab IT on the networking requirements for the Ross buildout, which is scheduled in mid-March.
- IT procured and configured 22 new iPads for the SDSTA Operations Technical Coordinators launch of the ManagerPlus mobile work order project.
- Twenty-five laptops and 10 desktops were procured for the first phase of the end of life computer project as well as new hire distribution.
- IT worked with vendors on networking configuration and equipment in preparation of the network redesign beginning in March. This redesign will enhance the current network structure and satisfy future requirements for LZ and Fermilab.

Daily Activities

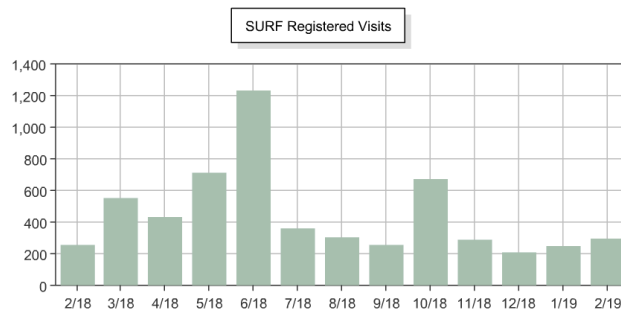
In addition to work order activity, IT monitors and reviews wireless and general network activity and counts, network hardware readiness, VPN Remote Access logs, Firewall logs, and establishes new VPN and DocuShare accounts for individuals and user groups, as requested.



Help Desk Activities (measured in Work Orders)

February Events

- In February, the Administrative Services team registered 297 visits; an increase of 45 individuals from last month. The February Visitor Log Report was submitted electronically to the SD Fusion Center/Homeland Security utilizing the SURF database reporting tool.



Number of Daily Visitors, Users and Contractors On-Site

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

- Feb 13: SURF All Hands Meeting (M. Headley)
- Feb 20: Equipment Manufacturer Site Visit (B. Pietzyk)
- Feb 21: SDSTA Board Telephonic Special Meeting (M. Headley)
- Feb 26: SDSTA Mandatory Benefits Open Enrollment Meeting (E. Brosnahan)
- Feb 28: Robotics Competition #1 (next competition is March 20; B. Mount, D. Wolf, C. Walter)

Administrative Activities

- Monthly Researcher hours were tracked, and Science training records entered; packing slips were matched to invoices; purchase orders were invoiced and closed in ManagerPlus; digital display information was updated; monthly office supply order was received and sorted; organizational charts and telephone lists were updated and distributed; documents were copyedited for various departments; filing, copying and other assistance were provided to the Finance Department; Bridge training courses were reviewed and new learners added to the system; safety training courses were completed.
- Procedures to badge LBNF Contractors were updated and a simplified checklist created for contractors to understand the process to receive a SURF access badge. Mandy continued to work with the Communications, ESH and the Science teams to develop guidelines for site visit requests. Discussions continued on Cultural Awareness and Diversity content on the Sanford Lab webpage. Several KAJV meetings were attended to understand procedures/logistics for shipment and deliveries to and from Sanford Lab as well as who the key players are at FRA, DOE, SDSTA and KAJV.

- Logistics planning continued for the LZ DOE Operations Review to be held on site March 12-14, 2019. The Neutrino Day planning committee met to discuss its theme “Cosmic Symphony” and sponsorships. This year’s event will be held on Saturday, July 13.
- February monthly reports for FRA and SDSTA were compiled, edited and distributed. Preparations began for the SDSTA board meeting scheduled on March 21.

Support Status
(Non-SURF Services Funded Activities)

Compact Accelerator System for Performing Astrophysical Research—CASPAR

- Data were collected over 8 days using the alpha beam and boron-11 target. The next data campaign is planned for late March.
- Stability issues continue with the targets and additional low-energy data for boron-11 will likely be collected before moving on to a different target.
- An individual accidentally walked through a section of an exclusion zone that was not barricaded while the accelerator was operating. The individual's dosimetry badge was sent for analysis, with results expected in early March. Note that the personal digital radiation monitor reading was low (~4 mrem or ~40 μ Sv) and is likely even lower due to electrical interference. An incident investigation is underway.
- An National Science Foundation mid-scale (\$6-20M) Research Infrastructure 2 (RI-2) pre-proposal was submitted to fund an accelerator upgrade. If successful in this initial round, the full proposal would be due May.

Other Current Research Activities

Physics

- Pacific Northwest National Lab (PNNL) Dust Monitoring: Initial collection equipment arrived at SURF and will be deployed at various SURF locations in coordination with different groups.

Geology

- GEOXTM: Programming for air-flow alarms was updated and alarms for humidity are being implemented.
- Other: There was some iteration on documents from the SDSM&T group interested in mining research. The group is interested in viewing and logging core in the surface repository.

Biology

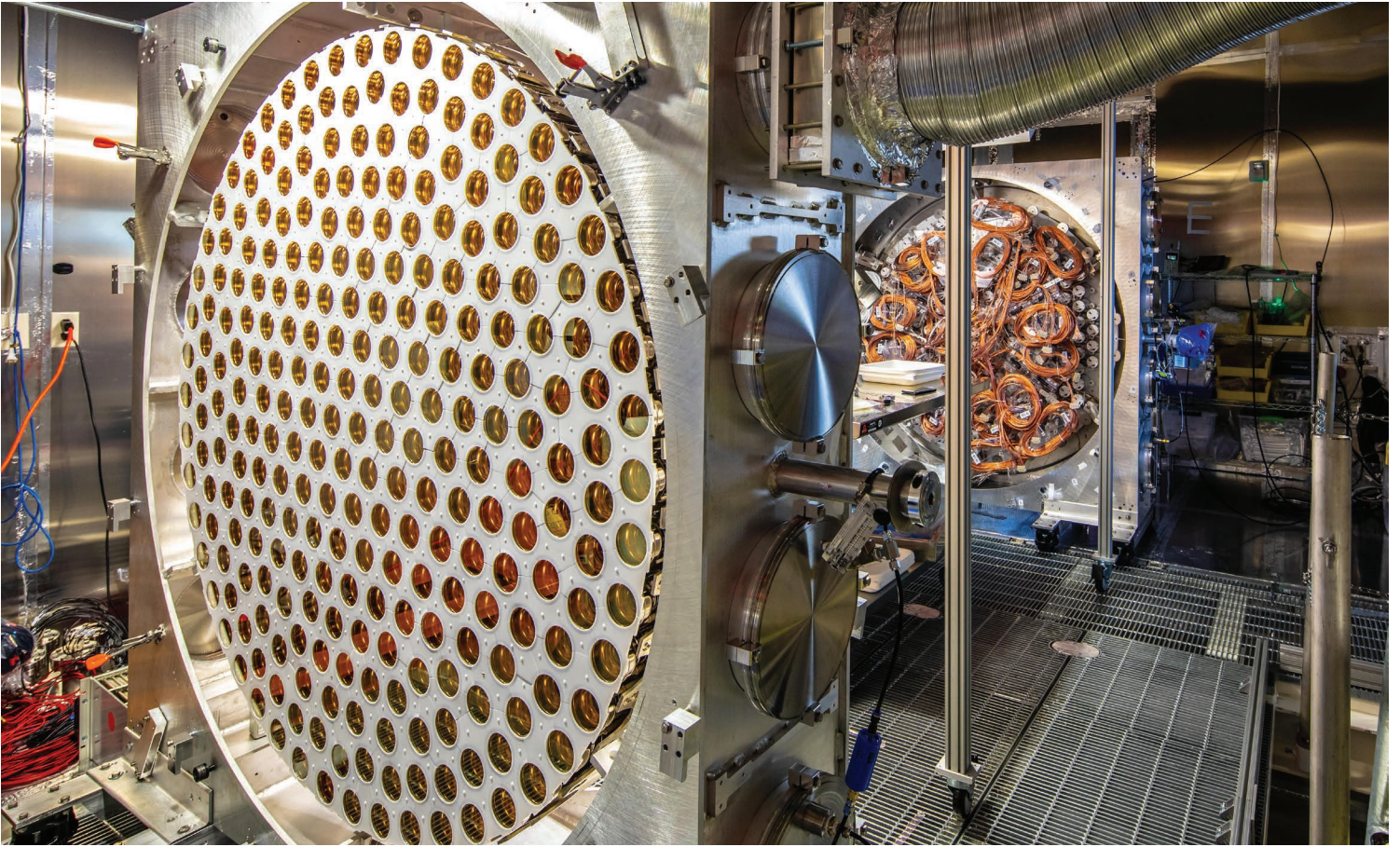
- BHSU Biodiversity: Equipment issues postponed a trip to collect a water sample from the 5000L.
- Other: There were iterations on an Experiment Planning Statement submitted by Liberty Biosecurity to study novel extremophile organisms in cooperation with SDSM&T; 4850L sampling is tentatively planned for March (commercial fees will apply).

Engineering

- Xilinx: SDSTA personnel assisted with shipping hardware associated with three of five chip arrays for offsite atmospheric testing.
- Other: Preparations are underway with RESPEC personnel regarding the Thermal Breakout project that proposes to use DUSEL drill holes on the 4850L. The group is interested in a site-selection trip in March.

APPENDIX

Communications Department Photo Appendix A



Top: The two photomultiplier tubes (PMT) arrays for the LZ experiment are seen here. In the foreground is the front of the bottom array and in the background the back of the top array is visible.

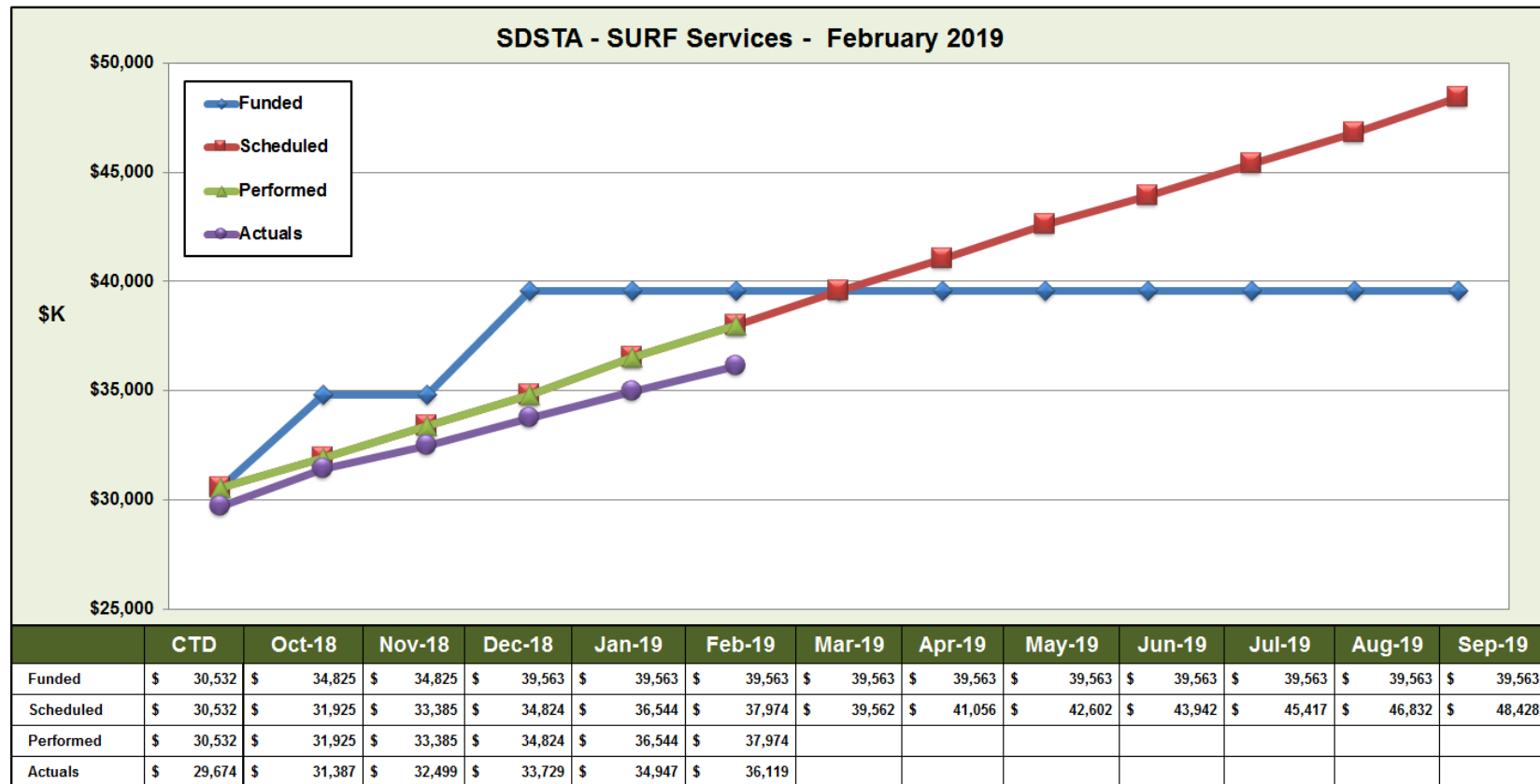
Center left: Dr. Alvine Kamaha, Post-doctoral Fellow, University at Albany, bundles cables on a PMT array.

Center right: Three individual PMTs are shown in various stages of the installation process.

Bottom: Deep Talks featured Richard Carlson, who manages the Fassbender Photographic Collection. In his presentation he told illustrated historic stories using the photos in the collection. Seventy-seven people attended the talk.



**Finance & HR Department
Appendix B**



**DOE SDSTA Fiscal Year 2019 SPA Curve
February 2019**

**Finance & HR Department
Appendix C**

FTE Report - All Fund Sources - FY19

Revised: March 8, 2019

Source/WBS	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
DOE SURF SERVICES	64.35	70.35	70.35	70.85	75.85	75.85	75.85	75.85	75.85	75.85	75.85	75.85
ERT	1.00	7.00	7.00	7.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Engineering	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Science	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15
Operations												
Management	7.00	7.00	7.00	7.00	7.00	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	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Ventilation	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Underground Maintenance	7.50	7.50	7.50	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Water Treatment	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40
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	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
ROSS SHAFT (DOE)	26.00	26.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
LZ Project	4.15	4.15	4.15	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
LZ Operations	2.10	2.10	2.10	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
LBNF / DUNE	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
INDIRECT	36.40	36.40	36.40	37.40	37.40	37.40	37.40	37.40	37.40	37.40	37.40	37.40
Grand Total	135.60	141.60	145.60	145.60	150.60	150.60	150.60	150.60	150.60	150.60	150.60	150.60

**SDSTA Staffing Plan by Funding Source
February 2019**

Appendix D – Financial Summaries

REPORT DATE 03/11/19

SOUTH DAKOTA SCIENCE & TECHNOLOGY

11:39

PAGE 0002

DIVISION: ALL

BALANCE SHEET

LIABILITIES & EQUITY

		AS OF 02/28/19

CURRENT LIABILITIES		
Accounts Payable	\$	857,053.32
Other Payables		9,310.79

Total Accounts Payable		866,364.11
Accrued Payroll Liab		1,561,978.30

Total Current Liabilities		2,428,342.41
OTHER LIABILITIES		
LT Xenon Notes Payable		6,000,000.00
Pension Deferred Inflows		851,741.96

Total Other Liabilities		6,851,741.96
EQUITY		
Restricted: Indemnificati		7,500,000.00
Restricted: Lab		4,000,000.00
Restricted: Mine Closure		1,432,739.47
Restricted: Sanford Gift2		97,378.97
Restricted: Pension		3,988,185.11
Restricted: Experim. Int.		2,423,278.00

Total Restricted Funds		19,441,581.55
Investment in Gen FA		80,899,708.22
Unrestricted Funds		7,908,857.77

Total Equity		108,250,147.54
		=====
TOTAL LIABILITIES & EQUITY	\$	117,530,231.91
		=====

DIVISION: ALL

BALANCE SHEET

ASSETS

AS OF
02/28/19

CURRENT ASSETS

First Interstate Checking	\$	1,932,626.04
First Interstate Other		4,017.86

Total in Local Checking		1,936,643.90
SD Treas: Indemnification		7,500,000.00
SD Treas: Mine Closure		1,432,739.47
SD Treas: Operating		582,758.01
SD Treas: Sanford Gift #2		97,378.97
SD Treas: Spec Sess - Lab		4,000,000.00
SD Treas: Experiments		2,522,824.35

Total with SD Treasurer		16,135,700.80
Billed A/R		2,581,520.09
Unbilled A/R		519,128.63
Other A/R		(20,799.02)
Inventory - Supplies		2,347,065.98
Inventory - Warehouse		29,442.66
Other Current Assets		567,139.48

Total Current Assets		24,095,842.52

FIXED ASSETS

Land, Underground & Other		12,633,473.13
Bldgs & Infrastructure		10,079,478.68
Improvements		62,661,312.62
Computer Equipment		431,565.17
Equipment & Fixtures		10,971,944.11
Accum Depr & Amort		(15,878,065.49)

Total Fixed Assets		80,899,708.22

OTHER ASSETS

Work in Process		1,180,853.71
Pension Deferred Outflows		4,839,927.07
Xenon Purchased		6,513,900.39

Total Other Assets		12,534,681.17

TOTAL ASSETS

	\$	117,530,231.91
		=====

ALL

STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/19

	YR-TO-DATE
REVENUE	
DOE Subcontracts	\$ 16,183,760.23
NSF/NASA Subcontracts	21,580.98
State Revenue	4,004,092.42
Contributions & Donations	125,000.00
Checking Interest	2,237.39
Interest Income	94,295.50

TOTAL REVENUE	20,430,966.52
DIRECT COSTS	
Direct Labor	4,032,560.30
Board of Directors	8,153.64
Capital Outlay >\$5K	1,712,655.06
Contractual Svcs	1,264,675.44
Inventory	124,561.37
Supplies	684,837.89
Travel - Domestic	26,825.92
Travel - Foreign	13,023.72
Utilities	1,270,775.07
Other Direct Costs	17,744.85
Unallow/Unbill Costs	227,461.25

TOTAL DIRECT COSTS	9,383,274.51
INDIRECT COSTS	
Fringe Benefits	2,904,009.67
Overhead	4,542,022.77

TOTAL INDIRECT COSTS	7,446,032.44

GROSS PROFIT/LOSS () FROM OPERATIONS	3,601,659.57

OTHER INCOME	
Water Treatment	110,586.19
Miscellaneous Income	39,981.81
Other Operating Income	8,665.18

TOTAL OTHER INCOME	159,233.18
OTHER EXPENSES	
Loss (Gain) on Sale of FA	29,369.42
Reclass Incr Net Assets	(1,211,694.18)

TOTAL OTHER EXPENSES	(1,182,324.76)

NET INCOME/LOSS ()	\$ 4,943,217.51
	=====

DIVISION: ALL

COMPARATIVE BALANCE SHEET

ASSETS

	AS OF 02/28/19	AS OF 02/28/18	\$ CHANGE	% CHANGE
CURRENT ASSETS				
First Interstate Checking	\$ 1,932,626.04	\$ 1,084,929.96	\$ 847,696.08	78.13%
First Interstate Other	4,017.86	10,769.70	(6,751.84)	-62.69%
	-----	-----	-----	-----
Total in Local Checking	1,936,643.90	1,095,699.66	840,944.24	76.75%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,432,739.47	1,415,782.17	16,957.30	1.20%
SD Treas: Operating	582,758.01	480,685.27	102,072.74	21.23%
SD Treas: Sanford Gift #2	97,378.97	322,567.97	(225,189.00)	-69.81%
SD Treas: Spec Sess - Lab	4,000,000.00	-	4,000,000.00	100.00%
SD Treas: Experiments	2,522,824.35	2,815,505.86	(292,681.51)	-10.40%
	-----	-----	-----	-----
Total with SD Treasurer	16,135,700.80	12,534,541.27	3,601,159.53	28.73%
Billed A/R	2,581,520.09	1,551,593.70	1,029,926.39	66.38%
Unbilled A/R	519,128.63	445,029.44	74,099.19	16.65%
Other A/R	(20,799.02)	93,806.67	(114,605.69)	-122.17%
Inventory - Supplies	2,347,065.98	2,416,621.40	(69,555.42)	-2.88%
Inventory - Warehouse	29,442.66	31,154.64	(1,711.98)	-5.50%
Other Current Assets	567,139.48	684,491.92	(117,352.44)	-17.14%
	-----	-----	-----	-----
Total Current Assets	24,095,842.52	18,852,938.70	5,242,903.82	27.81%
FIXED ASSETS				
Land, Underground & Other	12,633,473.13	12,633,473.13	-	0.00%
Bldgs & Infrastructure	10,079,478.68	10,079,478.68	-	0.00%
Improvements	62,661,312.62	63,427,334.26	(766,021.64)	-1.21%
Computer Equipment	431,565.17	431,565.17	-	0.00%
Equipment & Fixtures	10,971,944.11	10,827,646.09	144,298.02	1.33%
Accum Depr & Amort	(15,878,065.49)	(13,977,099.05)	(1,900,966.44)	13.60%
	-----	-----	-----	-----
Total Fixed Assets	80,899,708.22	83,422,398.28	(2,522,690.06)	-3.02%
OTHER ASSETS				
Work in Process	1,180,853.71	1,530,780.25	(349,926.54)	-22.86%
Equipment - Capital Lease	-	-	-	0.00%
Pension Deferred Outflows	4,839,927.07	4,174,730.00	665,197.07	15.93%
Xenon Purchased	6,513,900.39	5,040,356.11	1,473,544.28	29.23%
	-----	-----	-----	-----
Total Other Assets	12,534,681.17	10,745,866.36	1,788,814.81	16.65%
	=====	=====	=====	=====
TOTAL ASSETS	\$ 117,530,231.91	\$ 113,021,203.34	\$ 4,509,028.57	3.99%
	=====	=====	=====	=====

DIVISION: ALL

COMPARATIVE BALANCE SHEET

LIABILITIES & EQUITY

	AS OF 02/28/19	AS OF 02/28/18	\$ CHANGE	% CHANGE
CURRENT LIABILITIES				
Accounts Payable	\$ 857,053.32	\$ 821,193.93	35,859.39	4.37%
Other Payables	9,310.79	11,495.76	(2,184.97)	-19.01%
	-----	-----	-----	-----
Total Accounts Payable	866,364.11	832,689.69	33,674.42	4.04%
Accrued Payroll Liab	1,561,978.30	1,359,084.15	202,894.15	14.93%
	-----	-----	-----	-----
Total Current Liabilities	2,428,342.41	2,191,773.84	236,568.57	10.79%
OTHER LIABILITIES				
LT Accrued EB/Lease	-	-	-	0.00%
LT Xenon Notes	6,000,000.00	4,000,000.00	2,000,000.00	50.00%
Pension Deferred Inflows	851,741.96	1,698,193.00	(846,451.04)	-49.84%
	-----	-----	-----	-----
Total Other Liabilities	6,851,741.96	5,698,193.00	1,153,548.96	20.24%
	-----	-----	-----	-----
TOTAL LIABILITIES	9,280,084.37	7,889,966.84	1,390,117.53	17.62%
EQUITY				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Lab	4,000,000.00	-	4,000,000.00	100.00%
Restricted: Mine Closure	1,432,739.47	1,415,782.17	16,957.30	1.20%
Restricted: Sanford Gift2	97,378.97	322,567.97	(225,189.00)	-69.81%
Restricted: Pension	3,988,185.11	2,476,537.00	1,511,648.11	61.04%
Restricted: Experim. Int.	2,423,278.00	2,753,584.00	(330,306.00)	-12.00%
	-----	-----	-----	-----
Total Restricted Funds	19,441,581.55	14,468,471.14	4,973,110.41	34.37%
Investment in Gen FA	80,899,708.22	83,422,398.28	(2,522,690.06)	-3.02%
Unrestricted Funds	7,908,857.77	7,240,367.08	668,490.69	9.23%
	-----	-----	-----	-----
TOTAL EQUITY	108,250,147.54	105,131,236.50	3,118,911.04	2.97%
	=====	=====	=====	=====
TOTAL LIABILITIES & EQUITY	\$ 117,530,231.91	\$ 113,021,203.34	\$ 4,509,028.57	3.99%
	=====	=====	=====	=====

COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/19

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 16,183,760.23	\$ 13,809,335.80	\$ 2,374,424.43	17.19%
NSF/NASA Subcontracts	21,580.98	15,275.86	6,305.12	41.28%
State Revenue	4,004,092.42	1,226.96	4,002,865.46	326242.54%
Contributions & Donations	125,000.00	125,000.00	-	0.00%
Checking Interest	2,237.39	1,147.95	1,089.44	94.90%
Interest Income	94,295.50	84,677.74	9,617.76	11.36%
	-----	-----	-----	-----
TOTAL REVENUE	20,430,966.52	14,036,664.31	6,394,302.21	45.55%
DIRECT COSTS				
Direct Labor	4,032,560.30	4,431,603.69	(399,043.39)	-9.00%
ERT Labor	-	54,358.22	(54,358.22)	-100.00%
Board of Directors	8,153.64	5,149.79	3,003.85	58.33%
Capital Outlay >\$5K	1,712,655.06	307,773.93	1,404,881.13	456.47%
Contractual Svcs	1,264,675.44	1,656,712.25	(392,036.81)	-23.66%
Inventory	124,561.37	112,150.56	12,410.81	11.07%
Supplies	684,837.89	654,734.61	30,103.28	4.60%
Travel - Domestic	26,825.92	39,187.34	(12,361.42)	-31.54%
Travel - Foreign	13,023.72	10,938.08	2,085.64	19.07%
Utilities	1,270,775.07	1,361,090.65	(90,315.58)	-6.64%
Other Direct Costs	17,744.85	125,168.82	(107,423.97)	-85.82%
Unallow/Unbill Costs	227,461.25	230,437.28	(2,976.03)	-1.29%
	-----	-----	-----	-----
TOTAL DIRECT COSTS	9,383,274.51	8,989,305.22	393,969.29	4.38%
INDIRECT COSTS				
Fringe Benefits	2,904,009.67	2,716,777.50	187,232.17	6.89%
Overhead	4,542,022.77	3,192,620.19	1,349,402.58	42.27%
	-----	-----	-----	-----
TOTAL INDIRECT COSTS	7,446,032.44	5,909,397.69	1,536,634.75	26.00%
	-----	-----	-----	-----
GROSS PROFIT/LOSS ()	3,601,659.57	(862,038.60)	4,463,698.17	517.81%
	-----	-----	-----	-----
OTHER INCOME				
Water Treatment	110,586.19	69,110.16	41,476.03	60.01%
Miscellaneous Income	39,981.81	249,788.87	(209,807.06)	-83.99%
Other Operating Income	8,665.18	4,803.70	3,861.48	80.39%
	-----	-----	-----	-----
TOTAL OTHER INCOME	159,233.18	323,702.73	(164,469.55)	-50.81%
OTHER EXPENSES				
Loss (Gain) on Sale of FA	29,369.42	65,176.46	(35,807.04)	-54.94%
Reclass Incr Net Assets	(1,211,694.18)	(1,357,701.40)	146,007.22	-10.75%
	-----	-----	-----	-----
TOTAL OTHER EXPENSES	(1,182,324.76)	(1,292,524.94)	110,200.18	-8.53%
	-----	-----	-----	-----
NET INCOME/LOSS ()	\$ 4,943,217.51	\$ 754,189.07	\$ 4,189,028.44	555.43%
	-----	-----	-----	-----

South Dakota Science & Technology Authority
Available Resources
2/28/2019

Cash Total Checking	\$ 1,932,626
Cash With State Treasurer	<u>\$ 16,135,701</u>
Total Cash	\$ 18,068,327
Less: Restricted Funds	
Indemnification/Mine Closure/Special Session Lab	\$ (12,932,739)
Experiments (Xenon, Interest, Infrastructure)	<u>\$ (2,522,824)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 2,612,764
Plus: Accounts Receivable Billed	\$ 2,581,520
Accounts Receivable Unbilled	\$ 519,129
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (2,428,187)</u>
(not including accts. pay. for Experiment funding)	
Available Cash	<u><u>\$ 3,285,226</u></u>

SDSTA CAPEX Budget Summary FY18/19
Actual vs Budget
February 2019 & 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	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%
TOTAL CAPEX	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%

SD Science & Technology Authority
Operational CAPEX Budget
YTD FY2019 Actual vs Budget

Project #	Project Description	Feb. 2019 YTD	FY2019 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 13,602.41	\$ 5,400.00	\$ (8,202.41)	251.90%	-151.90%
CAP2016-02	LX Surface/UG Facility Upgrades	\$ -	\$ 153.00	\$ 153.00	0.00%	100.00%
CAP2016-03	LZ Xenon Gas	\$ 1,167,251.30	\$ 2,557,500.00	\$ 1,390,248.70	45.64%	54.36%
CAP2019-01	Maintenance Support Facility	\$ -	\$ 2,000,000.00	\$ 2,000,000.00	0.00%	100.00%
	Totals	\$ 1,180,853.71	\$ 4,563,053.00	\$ 3,382,199.29	25.88%	74.12%

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

Project #	Project Description	Feb. 2019	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Displays/Monitoring	\$ 155.00	\$ -	\$ (155.00)	0.00%
CAP2016-02	LX Surface/UG Facility Upgrades	\$ -	\$ -	\$ -	0.00%
CAP2016-03	LZ Xenon Gas	\$ 923.45	\$ 500.00	\$ (423.45)	184.69%
CAP2019-01	Maintenance Support Facility	\$ -	\$ -	\$ -	0.00%
	Monthly Totals	\$ 1,078.45	\$ 500.00	\$ (578.45)	215.69%



DECLARATION OF SURPLUS PROPERTY

The South Dakota Science and Technology Authority (SDSTA) wishes to surplus items listed that are located on property. SDSTA has no further use for the items below:

- Tsurumi Pump
- Lincoln Welder
- (2) Pipe Parts
- Steel Framing Studs
- Roof Drains
- Roofing Supplies "Buffalo Board ¾" x 4FT x 4FT (Over 200 Sheets)
- Roofing Supplies Hardware for Roofing
- Sewer Rooter with ½ HP motor 110Vac
- Sewer Rooter Attachments
- (2) Sewer Snake Reels
- 425 Gallon Water Tank

I hereby declare the items listed to be Surplus Property. The SDSTA is currently seeking bids.

Dated at Lead, South Dakota this 19th day of December 2018.

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

Mike Headley
SDSTA Executive Director

DECLARATION OF SURPLUS PROPERTY

The South Dakota Science and Technology Authority (SDSTA) owns two concrete buckets. Both were purchased in 2014 and refurbished. The concrete buckets were used for an underground project at the Ross Shaft which has been completed. SDSTA has no further use for the concrete buckets and wishes to surplus them.

Having no further use for this property, I hereby declare the Concrete Buckets to be Surplus Property.

Dated at Lead, South Dakota this 8th day of February, 2019.



Mike Headley
SDSTA Executive Director

**South Dakota Science and Technology Authority
March 21, 2019 Annual Board Meeting**

Agenda Item: 09

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.

**South Dakota Science and Technology Authority
March 21, 2019 Annual Board Meeting**

Agenda Item: 10

Report from Executive Session—Chairperson Casey Peterson

See recommended motion below...

Recommended Action:

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

OR

...as discussed and stated otherwise

Discuss creation of SDSTA fundraising foundation—Mr. Mike Headley

Discuss creation of SDSTA fundraising foundation—presentation by Mr. Mike Headley and Mr. Brian Bonde, President of Advanced Certified Fundraising, LLC.

Recommended Action:

Motion to authorize the chair and executive director to work with legal counsel to form an appropriate foundation legal entity, to authorize the chair to execute the necessary organizational documents and to authorize the use of up to \$15,000.00 of SDSTA funds for said purposes.



BRIAN J. BONDE, ACFRE
Advanced Certified Fundraising Executive

A fundraising organization to support SURF **March 9, 2019**

A new fundraising organization will be required to support the capital campaign and fund development aspirations of the South Dakota Science and Technology Authority (SDSTA) and generate revenue support from philanthropic giving. This new non-governmental, non-profit corporation will be comparable to organizations like the *South Dakota Parks and Wildlife Foundation*, the *Friends of South Dakota Public Broadcasting* and other IRS Section 501(c)(3) federal tax-exempt organizations.

This new organization will be organized by and initially funded the SDSTA, and its board of directors will include a subset of members who also sit on the SDSTA Board. However, the organization will be legally separate as a public charity or foundation.

A new nonprofit corporation

Creating a new fundraising organization will require the following steps:

- Form a new South Dakota corporation
 - Four initial incorporators (i.e., board members)
 - Application and fees
 - Articles of incorporations
- IRS section 501(c)(3) recognition
 - File IRS Form 1023 or form 1023-EZ
 - Application and fees
 - Acknowledgment of tax exemption
- Initial governance
 - The initial board of directors
 - Initial bylaws
 - Creation of a financial and organizational structure

Comprehensive fundraising program

The new organization will hire staff to create the fund development program that will execute a campaign to raise the money to support the educational services of the Sanford Underground Research Facility (SURF). The new philanthropic structure discussed above will provide new annual and major gift revenue streams for the SDSTA to 1) renovate the Yates Education and Outreach (E&O) Building and 2) endow the SURF E&O program performed in partnership with SDSTA and Black Hills State University. Additional initiatives such as the development of a Science Technology Engineering and Math (STEM) Institute would be included in the fundraising program as the scope is defined and development and operations plans are formed.

Advanced Certified
Fundraising, LLC
2104 South Pendar Lane
Sioux Falls, SD 57105-3945

www.BrianBonde.com
Phone: 605-254-5352
Cell: 605-366-4114
E-mail: Brian@BrianBonde.com

**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 12

Select Nominating Committee—Chairperson Casey Peterson

Chairman Peterson to select members to the Nominating Committee.

The election of officers will be held at the June 20, 2019 annual meeting.

Recommended Action:

None.

Confirm date and time of next meeting—Chairperson Casey Peterson

The next board meeting will be held on Thursday, June 20 beginning at 8:00 AM (Mountain Time).

2019 Board Schedule	
<i>February 21, 2019, telephonic</i>	<i>9:30 am (MT)</i>
Thu, March 21, 2019	08:00 am (MT)
Thu, June 20, 2019	08:00 am (MT)
Thu, September 19, 2019	08:00 am (MT)
Thu, December 12, 2019	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
Direct Line: 605.722.4022, Cell: 605.641.0475

Recommended Action:
Informational.

**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 14

Public Comments—Chairperson Casey Peterson

Address public comment forms received, if any.

Recommended Action:

Board Comments—Chairperson Casey Peterson

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

Recommended Action:

**South Dakota Science and Technology Authority
March 21, 2019 Board Meeting**

Agenda Item: 16

Adjourn—Chairperson Casey Peterson

Recommended Action:
Motion to adjourn.

