

**South Dakota Science and Technology Authority**

**Board Meeting  
March 16, 2017**



630 East Summit Street  
Lead, SD 57754



**Call to Order – Chairperson Casey Peterson**

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1A. Call Roll

Dr. Ani Aprahamian

Mr. Paul Christen

Mr. Dana Dykhouse

Ms. Pat Lebrun

Mr. Casey Peterson

Mr. Ron Wheeler

Dr. Robert Wilson

Dr. Heather Wilson

1B. Introduce Guests

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**Approve Agenda—Chairperson Casey Peterson**

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Attached is the SDSTA Board agenda for the March 16, 2017 meeting.

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**Recommended Action:**

*Motion to approve agenda as presented.*

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**DRAFT AGENDA**  
**South Dakota Science and Technology Authority**  
**630 East Summit Street, Lead, South Dakota**  
**Meeting of the Board of Directors**  
**Thursday, March 16, 2017 at 8:00 AM (MT)**

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

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

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

Title	Report	Recommendations
1. Call to Order A. Call Roll B. Introduce Guests	-- Chair Casey Peterson	<i>Informational</i>
2. Approve Agenda	-- Chair Casey Peterson	<i>Motion to approve agenda</i>
3. Approve Minutes	-- Chair Casey Peterson	<i>Motion to approve the December 15, 2016 and February 24, 2017 Minutes</i>
4. Conflicts Disclosure	-- Mr. Tim Engel	
5. Waiver Under SDCL CH. 3-23	-- Mr. Tim Engel	<i>Grant waiver or decline to grant waiver</i>
6. State Board of Internal Controls Update	-- Mr. Tim Engel	<i>Informational</i>
7. 2017 Legislative Update	-- Mr. Tim Engel	<i>Informational</i>
8. Audit Committee Report	-- Ms. Pat Lebrun	<i>Motion to accept Audit Report Fiscal Year Ended June 30, 2016 per discussion at December 15, 2016 board meeting</i>
9. Financial Report A. Financial Statements	-- Mr. Mike Headley -- Ms. Nancy Geary	<i>Motion to accept report as presented</i>
10. Report from Executive Director A. SDSTA Quarterly Update B. Science Update C. Underground Access Update	-- Mr. Mike Headley -- Dr. Jaret Heise -- Mr. Bryce Pietzyk	<i>All informational</i> <i>Presentation</i> <i>Presentation</i> <i>Motion to accept executive director's report</i>
11. SDSTA Policies and Procedures	-- Mr. Mike Headley	<i>Motion to approve updated Travel Approval-Employees Policy 3.12 and Workers' Compensation Policy 4.8 as presented</i>
12. Approval of SDSTA Business Advisory Council Charter	-- Chair Casey Peterson	<i>Motion to approve Business Advisory Council Charter as presented</i>
13. Executive Session (closed meeting)	-- Chair Casey Peterson	<i>Motion to enter executive session to discuss personnel matters and to consult with legal counsel concerning contractual matters</i>
14. Report from Executive Session	-- Chair Casey Peterson	<i>Motion to accept executive session report</i>
15. Select Nominating Committee	-- Chair Casey Peterson	<i>Election of officers to be held at the annual board meeting in June</i>
16. Confirm date and time of next meeting	-- Chair Casey Peterson	<i>Thursday, June 22 at 8:00am (MT)</i>
17. Board Comments		
18. Adjourn	-- Chair Casey Peterson	<i>Motion to adjourn</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 24 hours prior to this meeting. Telephone: (605) 722-8650.

# AGENDA

## 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 Dykhous, Vice-Chair	Re-appointed August 1, 2014	August 14, 2020
4.	Ms. Patricia Lebrun, Secretary-Treasurer	Re-appointed August 5, 2016	August 8, 2022
5.	Mr. Casey Peterson, Chair	Re-appointed August 25, 2015	August 8, 2021
6.	Mr. Ron Wheeler, Vice-Chair	Re-appointed April 10, 2014	April 9, 2020
7.	Dr. Robert Wilson	August 24, 2015	August 8, 2021
8.	Dr. Heather Wilson, ex-officio member	SDSM&T President appointed July 1, 2014	
	Committees and Members (2016-2017)		
	Audit Committee Members:	Nominating Committee Members:	
	➤ Pat Lebrun-Chair	➤ Ani Aprahamian	
	➤ Paul Christen	➤ Dana Dykhous	
	➤ Casey Peterson, ex-officio		
	2017 Board Schedule		
	March 16, 2017	8:00 am (MT)	E&O Bldg
	June 22, 2017	8:00 am (MT)	E&O Bldg
	September 21, 2017	8:00 am (MT)	E&O Bldg
	December 14, 2017	9:00 am (MT)	E&O Bldg, lunch

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**Approve Minutes—Chairperson Casey Peterson**

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Attached are the SDSTA Board Minutes for the following meetings:

- December 15, 2016
- February 24, 2017 (telephonic)

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**Recommended Action:**

*Motion to approve the Minutes of the December 15, 2016 and February 24, 2017 meetings as presented.*

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**South Dakota Science and Technology Authority Board of Directors**  
**Meeting Minutes**  
**Thursday, December 15, 2016**  
**Lead, South Dakota**

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 9:04 AM Mountain Time (MT) on Thursday, December 15, 2016 in the Administration Building 2<sup>nd</sup> Floor Vault Conference Room at the South Dakota Science and Technology Authority, 630 East Summit Street, Lead, South Dakota.

**MEMBERS OF THE BOARD IN ATTENDANCE IN PERSON**

Mr. Paul Christen  
Vice Chairperson Dana Dykhouse  
Secretary/Treasurer Patricia Lebrun  
Chairperson Casey Peterson  
Vice Chairperson Ron Wheeler

**MEMBERS OF THE BOARD IN ATTENDANCE BY TELEPHONE**

Dr. Heather Wilson  
Dr. Robert Wilson

**MEMBERS OF THE BOARD NOT IN ATTENDANCE**

Dr. Ani Aprahamian

**SDSTA STAFF**

Ms. Michele Baumann, Contracts Specialist  
Ms. Billi Bierle, Sanford Lab Homestake Visitor Center Executive Director  
Mr. Tim Engel, Legal Counsel  
Ms. Nancy Geary, Chief Financial Officer  
Mr. Mike Headley, Executive Director & Sanford Lab Director  
Ms. Sharon Hemmingson, Business Services and Contracts Manager  
Ms. Mandy Knight, Administrative Services Office Manager  
Mr. KC Russell, Cultural Diversity Coordinator  
Mr. Noel A. Schroeder, Environment, Safety and Health (ESH) Director  
Mr. Allan Stratman, Director of Engineering  
Ms. Constance Walter, Communications Director

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

Dr. June Apaza, Education and Outreach Director (BHSU)  
Dr. Becky Bundy, Science Education Specialist (BHSU)  
Ms. Julie Dahl, Science Education Specialist (BHSU)  
Dr. Peggy Norris, Deputy Director of Education & Outreach (BHSU)  
Dr. Ben Sayler, Co-Director Sanford Center for Science Education (BHSU)  
Mr. Jim Sheridan, Mr. Paul Christen's guest  
Ms. Kari Webb, Science Education Specialist (BHSU)

**ITEM 1. CALL TO ORDER**

Chairperson Peterson called the meeting to order at 9:04 AM (MT). Roll call was held. All members were present except Dr. Ani Aprahamian. Dr. Robert Wilson and Dr. Heather Wilson joined the meeting by telephone. Chairperson Peterson asked guests to introduce themselves.

## **ITEM 2. APPROVE AGENDA**

Chairperson Peterson suggested that Item 11 be discussed during the Item 5 update and that the proposed agenda be revised accordingly.

*Motion by Ms. Lebrun and second by Mr. Wheeler to approve the agenda as modified. By roll call vote, the motion passed unanimously.*

## **ITEM 3. APPROVE MINUTES**

Chairperson Peterson asked if any of the board members had any comments, changes or corrections to the September 22 and October 11 Minutes. Hearing none, a motion to approve the Minutes was requested.

*Motion by Mr. Wheeler and second by Mr. Dykhouse to approve the Minutes of the September 22 and October 11, 2016 meetings as presented. By roll call vote, the motion passed unanimously.*

## **ITEM 4. CONFLICTS OF INTEREST DISCLOSURE AND WAIVER**

Mr. Engel asked if any board member has a conflict of interest to disclose. Hearing none, Mr. Engel proceeded to the request for a waiver presented by Dr. Heather Wilson.

Mr. Engel reminded the Board that Dr. Heather Wilson takes a salary from the South Dakota School of Mines and Technology (SDSM&T) and that she is required by statute to disclose and request a waiver for research contracts entered into by SDSM&T.

Mr. Engel said Dr. Heather Wilson had completed a waiver request form, and that the form and the SDSM&T Grant Report have been included in the board packets. On behalf of Dr. Heather Wilson, Mr. Engel requested that the board vote on her request for a waiver.

*Motion by Mr. Dykhouse and second by Mr. Christen to grant the waiver for Dr. Heather Wilson. By roll call vote, the motion passed unanimously.*

Dr. Heather Wilson is a non-voting member and did not vote on the motion to grant a waiver.

## **ITEM 5. STATE BOARD OF INTERNAL CONTROLS UPDATE**

Mr. Engel gave a brief update on the state Board of Internal Control. He said the Board of Internal Control has decided to solicit proposals for an outside consultant to help build the internal controls program for the Bureau of Finance and Management. A Request for Proposal (RFP) has been released and proposals are due in January, but there is no deadline to act on the proposals.

## **ITEM 11. BRIEFING ON INITIATED MEASURE 22 AS IT RELATES TO SDSTA**

Mr. Engel said Initiated Measure 22 (IM22), a revision of state campaign finance and lobbying laws, has been put on hold because sections of IM22 are likely unconstitutional. He said one of the IM22 provisions, which has the potential to directly affect the SDSTA, puts limits on lobbying and lobbyists.

## **ITEM 6. AUDIT COMMITTEE UPDATE**

SDSTA Board member and Audit Committee Chair Ms. Pat Lebrun reported that the Audit Committee met by telephone on November 28 to discuss the Audit Report for Fiscal Year Ended June 30, 2016. She said Mr. Al Schaefer of the South Dakota Legislative Audit was on-site in October to perform the audit and he was complimentary of Chief Financial Officer Ms. Nancy Geary and her staff for their proficiency. Ms. Lebrun said Mr. Schaefer had first thought SDSTA would need to complete a Federal Compliance-Uniform Guidance Audit, but after initial review said this type of audit was not necessary; thus, the cost of the audit will be less. She congratulated Ms. Geary and her staff for their great work. She also said that the Audit Charter had been “annually” reviewed in September and at the September meeting it was stated that there were no changes to the charter. She noted these documents are included

in the board packet and to contact the audit committee if there are any further questions prior to the March meeting. Ms. Lebrun said an action item to approve the audit report will be necessary at the March 2017 board meeting. Chairperson Peterson acknowledged the audit committee report and thanked Ms. Geary and her staff for a job well done.

## **ITEM 7. FINANCIAL REPORT**

Ms. Geary reported on the November financial summaries including the balance sheet and income statement. Mr. Geary said due to the failure of the underground Deep Well pump in November, the SDSTA is awaiting a partial month invoice for the few days the pump was operational. Also, she said 400 liters of xenon are being shipped to SLAC and should arrive at their facility in January. Mr. Wheeler and Ms. Geary noted that the SDSTA will need to notify the Foundations in writing when the SDSTA plans to draw funds to pay for the xenon.

*Motion by Mr. Wheeler and second by Mr. Christen to accept the Financial Report as presented. By roll call vote, the motion passed unanimously.*

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

### **ITEM 8A. SDSTA QUARTERLY UPDATE**

SDSTA Executive Director Mr. Mike Headley began with a slide presentation and discussed safety performance, and said there have been five SDSTA total recordable injuries for 2016. Mr. Headley said that the Environment, Safety and Health (ESH) Oversight Committee is here this week to review the SDSTA ESH program improvement planning and the review is going well. He said good progress had been made in science facility integration.

Mr. Headley said the House and Senate support remains strong for the Sanford Lab and the Long-Baseline Neutrino Facility (LBNF) / Deep Underground Neutrino Experiment (DUNE) Project. He said the LUX-ZEPLIN (LZ) Director's Review was held November 15-17, 2016, and LZ is preparing for the Department of Energy (DOE) Critical Decision-3c (CD-3c) Review, that is the construction approval, planned for January 10-12, 2017.

In regard to the LBNF/DUNE, Mr. Headley said the project is advertising for a construction manager (CM) contractor, and the CM should be selected by early summer.

Mr. Headley said significant DUNE efforts have been applied to prototype liquid Argon (LAr) detectors at CERN and Fermilab. He said the next DUNE collaboration is planned for January 23-26, 2017, at CERN.

In regard to the Ross Shaft refurbishment contract, SDSTA is continuing to work with Fermilab to transition the contract from LBNL and the contract should be finalized by the end of December 2016.

Mr. Headley discussed Item 10 and said the bridge operating contract between the Fermi Research Alliance LLC (FRA) and SDSTA is currently being extended adding \$7.6M for an additional six months to the contract. He said the bridge contract would end June 2017 when the 5-year operations contract is awarded.

*Motion by Mr. Wheeler and second by Mr. Dykhouse to authorize the chairperson to approve and sign an extension to the bridge contract between SDSTA and Fermi Research Alliance LLC. By roll call vote, the motion passed unanimously.*

Mr. Headley discussed Cultural Advisory Committee (CAC) activities. He also mentioned SDSTA Culture Diversity Coordinator Mr. KC Russell had been reappointed to the South Dakota Hagen/Harvey Scholarship Selection Committee. He said Mr. Russell is contacting additional tribal schools and that the search continues for new CAC members.

## **ITEM 8B. SCIENCE UPDATE**

Mr. Headley said LUX decommissioning commenced in the Davis Campus, and the xenon and detector cryostat were successfully transported to the surface in October.

In regard to the MAJORANA DEMONSTRATOR (MJD), Mr. Headley said detector commissioning continues with background and calibration data collection. He said many MJD collaboration members are participating in developing the next generation germanium (Ge) double beta decay experiment.

Mr. Headley said the Compact Accelerator System for Performing Astrophysical Research (CASPAR) experiment is working on the water cooling system performance, and all wiring and programming improvements have been completed.

In regard to the Black Hills State University Underground Campus (BHUC), he said evaluation of expansion possibilities continue. Also, the low background detector mechanical design documents have been received.

Mr. Headley presented conceptual drawings of the new Machine Shop. He said the existing structure is 26,000 square feet but the ceiling is too low for what is needed.

## **ITEM 8C. EDUCATION & OUTREACH UPDATE**

Education and Outreach Director Dr. June Apaza began with a slide presentation and discussed 1) School Presentations, 2) Curriculum Units and 3) Field Trips. The E&O team then demonstrated three school kits and the Board participated in the hands-on activities. Dr. Apaza concluded her report saying that these kits are being utilized in the various classrooms across the State of South Dakota and with students that visit the Sanford Lab.

*Motion by Ms. Lebrun and second by Mr. Christen to accept Executive Director's Report. By roll call vote, the motion passed unanimously.*

## **ITEM 9. BOARD REPRESENTATION ON THE CULTURAL ADVISORY COMMITTEE**

Mr. Headley asked the board to approve Ms. Lebrun to represent SDSTA Board of Directors on the Cultural Advisory Committee.

*Motion by Mr. Wheeler and second by Mr. Dykhouse to approve Ms. Lebrun to represent the SDSTA Board of Directors on the Cultural Advisory Committee. By roll call vote, the motion passed unanimously.*

## **ITEM 14. EXECUTIVE SESSION**

*Motion by Mr. Dykhouse and second by Mr. Wheeler to enter executive session to discuss personnel matters and to consult with legal counsel concerning contractual matters. By roll call vote, the motion passed unanimously.*

*The board recessed at 11:10 AM for Executive Session and reconvened at 12:18 PM.*

## **ITEM 15. REPORT FROM EXECUTIVE SESSION**

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

*Motion by Ms. Christen and second by Ms. Lebrun to accept the Executive Session Report. Motion passed unanimously.*

## **ITEM 12. SDSTA POLICIES AND PROCEDURES**

Mr. Headley briefly discussed the following policy recommendations and said they had been reviewed by Mr. Engel.

The following policies were recommended for approval:

- Policy 2:24 Publication Policy (*new*)
- Policy 4:4 Leave (*updated; Section E: Family Medical Leave Act*)
- Table of Contents (*updated*)

*Motion by Mr. Wheeler and second by Mr. Dykhouse to approve the new Publication Policy 2:24 and updated Leave Policy 4.4, as presented. By roll call vote, the motion passed unanimously.*

### **ITEM 13. LOBBYIST REGISTRATION**

Mr. Engel recommended the board approve Mr. Headley, Mr. Wheeler and Mr. Engel as lobbyists for the 2017 Legislative Session.

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

### **ITEM 16. CONFIRM DATE AND TIME OF NEXT MEETING**

Chairperson Peterson asked if there were any concerns with the board meeting scheduled for Thursday, March 16, 2017 at 8:00 A.M. (MT) in the Education & Outreach (E&O) Building Conference Room. There were none.

### **ITEM 17. BOARD COMMENTS**

Mr. Wheeler commented that things are going well at the lab and there could be a lot cut out for us with the new White House Administration. He said timing of issues will be critical and if any of the board members has an opportunity to discuss Sanford Lab with South Dakota congressional leaders, he would encourage them to do so. He said the board may need to relearn the roles at the DOE such as the Secretary and Under Secretary. Mr. Wheeler said this was another excellent meeting and commended Mr. Headley and his staff for their work.

Ms. Lebrun also said this was another great meeting. She mentioned that we could be faced with an escalation of inflation. She said she hoped the lab could get funding sooner than later as procurement items are going to get more expensive as the project moves ahead. Ms. Lebrun said it is impressive to see what is happening at the lab.

Mr. Christen also reiterated Ms. Lebrun's and Mr. Wheeler's comments and congratulated Mr. Headley and the Sanford Lab team for doing a great job. He thanked Ms. Geary and her team for all the good work. Mr. Christen said he is concerned about funding for the lab.

Dr. Heather Wilson said she is impressed with the progress that is being made. She said she is unsure if our congressional delegation can do anything as many projects are in the same boat. Dr. Heather Wilson recommended continuing to talk to the delegation to have the lab at the top of their minds.

Mr. Headley thanked the board for their continued counsel and support. He said the lab has an amazing staff. Mr. Headley thanked SDSTA Administrative Services Manager Ms. Mandy Knight and SDSTA Contracts Specialist Ms. Michele Baumann for organizing the meeting. Mr. Headley wished everyone a Happy Holiday.

Mr. Engel wished everyone a Happy Holiday.

Mr. Dykhouse said that Mr. Denny Sanford's original vision was to have an E&O program and that vision is being accomplished. He thanked the E&O team for the update and is pleased to see the progress.

Chairperson Peterson thanked everyone for a great meeting and wished them a Merry Christmas and Happy Holidays. He also reminded the board about the Sanford Lab Winter Social that is coming up February 24.

Dr. Robert Wilson reiterated the E&O effort is wonderful. He said children interested in science now will grow up to be our next scientists using the lab and exercising their right to vote. He said that the lab is doing a great job in safety. Dr. Robert Wilson said it is unheard of for a safety committee such as the ESH Oversight Committee to gush in praise about a lab's safety culture. He said Sanford Lab should be proud of its safety culture as it advances. Dr. Robert Wilson wished everyone Happy Holidays.

#### **ITEM 18. ADJOURN**

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

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

**Meeting adjourned at 12:38 PM.**



**South Dakota Science and Technology Authority Board of Directors  
Special Telephonic Meeting Minutes  
Friday, February 24, 2017  
Lead, South Dakota**

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 3:30 P.M. Mountain Time (MT) on Friday, February 24, 2017, 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 conference room of the South Dakota Department of Tourism and State Development, 711 East Wells Avenue, Pierre, South Dakota.

**MEMBERS OF THE BOARD IN ATTENDANCE BY TELEPHONE**

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

**MEMBERS OF THE BOARD ABSENT**

Dr. Ani Aprahamian  
Vice Chairperson Dana Dykhous  
Vice Chairperson Ron Wheeler

**SDSTA STAFF IN ATTENDANCE**

Mr. Tim Engel, Legal Counsel (by phone)  
Mr. Mike Headley, Executive Director  
Ms. Mandy Knight, Administrative Services Manager  
Ms. Constance Walter, Communications Director

**OTHERS IN ATTENDANCE**

Mr. Patrick Weber, SD Office of the Governor (by phone)

**ITEM 1. CALL TO ORDER**

Chair Casey Peterson called the meeting to order at 3:30 P.M. (MT). All members were present by roll call except Dr. Ani Aprahamian, Vice Chairperson Dana Dykhous and Vice Chairperson Ron Wheeler. Dr. Heather Wilson joined later.

Chair Casey Peterson asked participants at the listening posts in Pierre and Lead to identify themselves. There was no response at the Pierre listening post. Staff listed above were present at the Lead office.

**ITEM 2. APPROVE AGENDA**

Chair Casey Peterson asked for a motion to approve the agenda.

*Motion by Ms. Lebrun and second by Mr. Christen to approve the agenda as presented. By roll call vote, the motion passed unanimously.*

**ITEM 3. APPROVAL OF SDSTA BUSINESS ADVISORY COUNCIL CHARTER**

Chair Casey Peterson said after discussion at the last board meeting he is pursuing putting together a Business Advisory Council (BAC) and has written a draft BAC Charter that Mr. Tim Engel and Mr. Mike Headley helped edit. It is included in the board packet. Chair Peterson said after discussion he would like approval for the chair to proceed to put together the BAC. He said a list of names has been drafted and invitations would be sent as soon as possible so that the BAC could hold their first meeting

in June before the SDSTA Board of Directors annual meeting. He then asked the board if they had any questions. Dr. Robert Wilson asked if there was a similar charter that this charter was drawn from and Chair Peterson replied that he had used a template from the South Dakota School of Mines and Technology (SDSM&T) since they have a few advisory boards. Mr. Headley said he also followed up with Fermilab and Lawrence Berkeley National Lab but they did not have any templates.

Mr. Christen said he read the draft charter and is unsure why the SDSTA would need a BAC at this time.

Chair Peterson said the objective is to promote potential economic development and perhaps identify ideas the SDSTA is not seeing. Mr. Engel emphasized that earlier edits made to the charter were to make clear to funding agencies and other audiences that the SDSTA is not in any way attempting to prejudice the competitive bidding process for any of these projects or to give any BAC members an advantage in the bidding process.

Mr. Christen asked if the BAC will consist of members outside of South Dakota so the SDSTA gets some strength and Chair Peterson replied that members would be from South Dakota and other states.

Ms. Lebrun said the concept is great, however, the SDSTA needs to make it clear that the focus is science. Chair Peterson agreed and said there is no intent to hinder science at the lab but to help advance it. Mr. Headley said the experience SDSM&T has had with their industry advisory board has been quite positive and he thinks the SDSTA has similar goals. He said it would be good to receive input on how the SDSTA is performing and operating from a business perspective and to make sure the SDSTA is putting opportunities out to the right communities and getting the maximum competition.

*Dr. Heather Wilson joined the telephonic meeting at 3:42pm.*

Dr. Heather Wilson stated the advisory boards at SDSM&T are slightly different from the community and business advisory function in general, but for the SDSTA, it would be good to build awareness in the community and understand how the SDSTA operates. Dr. Heather Wilson said it would take SDSTA staff time, but there is quite a bit of commitment by the people of South Dakota for this entity and there is a long-term benefit to have community leaders more aware of the SDSTA operations.

Dr. Robert Wilson asked what the financial impact would be on the SDSTA and Chair Peterson said he did not think it would be a large expense. Mr. Headley said he would work with SDSTA Chief Financial Officer Ms. Nancy Geary to calculate a cost estimate after the draft membership list is reviewed.

Chair Peterson said the board has raised some good questions and discussed possible revisions to the charter. He raised the issue of having a method in the charter for terminating the BAC should its usefulness cease.

Also, Dr. Robert Wilson asked if the charter requires the BAC to provide an annual report to the SDSTA board. Mr. Engel said there is no explicit requirement for a report, but BAC minutes are mandated in the charter, which are also required to be available for public inspection.

Mr. Engel suggested, as a place to start, to include a sentence on Page 2, under the heading "Meetings", a new sub "J" requiring the Chair of the SDSTA Board or Executive Director of the SDSTA to provide a report to the SDSTA Board of Directors after each BAC meeting. He also suggested to include a new heading on Page 2, after "Expectations of Members" and name it "Annual Report" or something similar which would require the Chair of the SDSTA Board to provide a report to the SDSTA Board of Directors at their annual meeting. At that meeting, the SDSTA Board will determine to renew the charter or discontinue it at each SDSTA annual meeting.

*Motion by Ms. Pat Lebrun and second Dr. Robert Wilson to approve the SDSTA Business Advisory Council Charter as verbally amended.*

Mr. Christen said he would vote for the motion but has great reservations that the SDSTA is doing the right thing. He said the SDSTA has greater needs than this and funding of the experiments should be the priority. He said he would like to see the SDSTA strengthen its exposure outside of South Dakota and around the United States, but he is also concerned about the SDSTA staff effort that would be required for the BAC. Chair Peterson assured Mr. Christen that more important challenges are being addressed.

Mr. Headley said in regard to the SDSTA staff effort, the initial BAC meeting would include items that are on hand already as it will be an indoctrination and SDSTA staff could easily handle the preparation required.

Chair Peterson said he is willing to table this until the next board meeting on March 16. Ms. Lebrun said she would like to know the financial impact as well as the staff impact resulting from forming the BAC. Mr. Christen said he would also like to see the draft membership list and Chair Peterson confirmed he would share it.

*Dr. Heather Wilson left the telephonic meeting at 4:06pm.*

A substitute motion was then made.

*Substitute motion by Mr. Christen and second by Dr. Robert Wilson to table consideration of the SDSTA Business Advisory Council Charter until the March 16, 2017 board meeting. By roll call vote, the motion passed unanimously*

#### **ITEM 4. ADJOURN**

Chair Casey Peterson asked if anyone had any other questions or comments.

He said the next regularly scheduled board meeting will be held on Thursday, March 16, 2017 and then called for a motion to adjourn.

Dr. Robert Wilson said he will be unable to attend the March 16 board meeting but, in general, would be in favor of approving the BAC charter as discussed today.

*Motion by Dr. Robert Wilson and second by Ms. Lebrun to adjourn. By roll call vote, the motion passed unanimously.*

Meeting adjourned at 4:11 P.M. (MT) on February 24, 2017.

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

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

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Attached are:

1. Dr. Heather Wilson's completed SDSTA Conflict of Interest Waiver
2. South Dakota School of Mines & Technology Grant Report

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**Recommended Action:**

*Grant waiver or decline to grant waiver.*

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**THIS IS A PUBLIC DOCUMENT**

**REQUEST FOR WAIVER**

Date: March 7, 2017

Name of the board member requesting the waiver: Dr. Heather Wilson

- Brief explanation of your potential conflict of interest:

I serve as an ex officio non-voting member of the Board of Directors of the South Dakota Science and Technology Authority ("SDSTA"). The School of Mines and Technology is a party to research-related contracts with federal agencies and other state agencies, boards and offices, including contracts with other public colleges and universities in South Dakota. The number of contracts currently in effect is approximately 50, and provide funding for various research activities being undertaken at the School of Mines.

- Brief explanation of the essential terms of the contract(s) or transaction(s) from which a potential conflict of interest may arise, including:

See attachment

1. All parties to the contract

See attachment

2. The person's role in the contract or transaction

My involvement in the transactions, arrangements or relationships disclosed herein is solely by way of my inherent supervisory capacity over all South Dakota School of Mines employees. I do not receive any direct payments on account of any the disclosed transactions, arrangements or relationships.

3. The purpose(s)/objective(s) of the contract

See attachment



4. The consideration or benefit conferred or agreed to be conferred upon each party

See attachment

5. The length of time of the contract

See attachment

6. Any other relevant information

The Legislature has determined that it is in the interests of the state to encourage relationships between SDSTA and South Dakota universities by making the President of the School of Mines an ex officio member of the SDSTA board of directors. I serve as a non-voting member of the SDSTA Board. None of the transactions, arrangements or relationships disclosed herein involve contracts with SDSTA.

Signature of Person Requesting Waiver: \_\_\_\_\_



**THIS IS A PUBLIC DOCUMENT**

Status Desc:Active

Category	Grant #	Grant Title	Proposal #	Proposal Title	PI Name	Org Desc	Agency Uid	Agency #	Agency Name	Curr Yr Amt	Cumulative Amt	Project Start	Project End	Status
Federal	MA1600061	Digitization TCN: Collaborative Research: The Cretaceous World: Digitizing Fossils to Reconstruct Evolving Ecosystems in the Western Interior Seaway	MP1600044	Digitization TCN: Collaborative Research: The Cretaceous World: Digitizing Fossils to Reconstruct Evolving Ecosystems in the Western Interior Seaway	Laurie Anderson	Museum of Geology	26753	A00025597	University Of Kansas	\$104,491.00	\$104,491.00	01-Jul-2016	30-Jun-2019	A
	MA1700001	Collaborative Research: On making wave energy an economical and reliable power source for ocean measurement applications	MP1600143	Collaborative Research: On making wave energy an economical and reliable power source for ocean measurement applications	Umesh Korde	Mechanical Engineering	26455	A00025934	National Science Foundation	\$167,379.00	\$167,379.00	01-Jul-2016	30-Jun-2018	A
	MA1700006	Collaborative Research: Unifying Mathematical and Statistical Approaches for Modeling Animal Movement and Resource	MP1600086	Collaborative Research: Unifying Mathematical and Statistical Approaches for Modeling Animal Movement and Resource Selection	Martha Garlick	Math & Computer Science	26455	A00025934	National Science Foundation	\$110,000.00	\$110,000.00	01-Aug-2016	31-Jul-2019	A
	MA1700009	SuperCDMS SNOLAB Project Support	MP1600168	SuperCDMS SNOLAB Project Support	Richard Schnee	Physics	201969	A00201930	SLAC National Accelerator Laboratory	\$47,789.00	\$47,789.00	01-Jul-2016	30-Sep-2016	A
	MA1700013	Photon Activation Analysis (PAA) of Heavy Metal Impurities in Prepared Samples	MP1700011	Photon Activation Analysis (PAA) of Heavy Metal Impurities in Prepared Samples	Douglas Wells	Physics	203974	A00203934	National Security Technologies, Inc	\$5,000.00	\$5,000.00	29-Aug-2016	28-Sep-2016	A
	MA1700014	Advanced Bioelectrochemical Module (BEM) for Waste-to-Electricity Generation during Long-term Space Exploration	MP1600154	Advanced Bioelectrochemical Module (BEM) for Waste-to-Electricity Generation during Long-term Space Exploration	Venkata Gadhamshetty	Civil & Environmental Engineering	26410	A00025453	National Aeronautics And Space Administration	\$0.00	\$0.00	22-Aug-2016	23-Nov-2016	A
	MA1700015	Combined Mechanical and Optical Experimental Setup	MP1600051	Combined Mechanical and Optical Experimental Setup	Cassandra Degen	Mechanical Engineering	26057	A00025216	Air Force Office Of Scientific Research	\$268,828.00	\$268,828.00	01-Sep-2016	31-Aug-2017	A
	MA1700016	Sustaining Urban Waters through Green Infrastructure Planning and Development	MP1600073	Sustaining Urban Waters through Green Infrastructure Planning and Development	Jennifer Benning	Civil & Environmental Engineering	26807	A00025847	Us Environmental Protection Agency	\$58,996.00	\$58,996.00	01-Sep-2016	31-Jan-2018	A
	MA1700017	Underground Study of Stellar Neutron Sources for Trans-Fe Element Production in Stars	MP1600068	Underground Study of Stellar Neutron Sources for Trans-Fe Element Production in Stars	Frank Strieder	Physics	26455	A00025934	National Science Foundation	\$168,000.00	\$168,000.00	01-Sep-2016	31-Aug-2019	A
	MA1700018	S-STEM: Culture and Attitude II	MP1600024	S-STEM: Culture and Attitude II	Michael West	Materials & Metallurgical Eng	26455	A00025934	National Science Foundation	\$982,102.00	\$982,102.00	01-Sep-2016	31-Aug-2021	A
State	MA1600062	Center for Acceleration of Research and Development on Electrospun Nanofibers (CARDEN)	MP1600167	Center for Acceleration of Research and Development on Electrospun Nanofibers (CARDEN)	Hao Fong	Chemistry and Applied Bio Science	26577	A00025487	Sd Board Of Regents	\$75,000.00	\$75,000.00	01-Jul-2016	30-Jun-2017	A
	MA1600063	Surface Engineering Research Center (SERC)	MP1600128	Surface Engineering Research Center (SERC)	Grant Crawford	Surface Engineering Rsch Ctr (SERC)	26577	A00025487	Sd Board Of Regents	\$294,102.00	\$294,102.00	01-Jul-2016	30-Jun-2017	A
	MA1700005	Center for Advanced Sensors (CAS)	MP1600200	Center for Advanced Sensors (CAS)	Hao Fong	Chemistry and Applied Bio Science	26683	A00025554	South Dakota State	\$12,000.00	\$12,000.00	01-Jul-2016	31-May-2017	A
	MA1700007	LCA Modeling for SD Oilseed Initiative	MP1600215	South Dakota Oilseed Initiative	James Stone	Civil & Environmental Engineering	26683	A00025554	South Dakota State	\$50,000.00	\$50,000.00	01-Jul-2016	30-Jun-2017	A
	MA1700010	SDBOR FY17 Research and Development Innovation Grants	MP1600222	SDBOR FY17 Research and Development Innovation Grants Program	Jan Puszynski	Research Affairs	26577	A00025487	Sd Board Of Regents	\$200,000.00	\$200,000.00	22-Aug-2016	15-Jun-2018	A
	MA1700011	CRGP Track 1: Biomechanics of Vascular Smooth Muscle Cell in Atherosclerosis	MP1600177	Biomechanics of vascular smooth muscle cell in atherosclerosis	Hao Fong	Chemistry and Applied Bio Science	26768	A00025823	University of South Dakota	\$22,500.00	\$22,500.00	22-Aug-2016	21-Aug-2017	A
	MA1700012	Physics-Based Modeling to Advance Research of Innovative Composite Joining Technologies	MP1600182	Physics-Based Modeling to Advance Research of Innovative Composite Joining Technologies	Cassandra Degen	Mechanical Engineering	26577	A00025487	Sd Board Of Regents	\$99,425.00	\$99,425.00	22-Aug-2016	21-Aug-2017	A

## BOR Grant Matrix

Project Start Date &gt;= 01-JUL-2016

Grant #	Grant Title	PI Name	Org Desc	Agency Name	Category	Project Start	Project End	Cumulative Amt
MA1600061	Digitization TCN: Collaborative Research: The Cretaceous World: Digitizing Fossils to Reconstruct Evolving Ecosystems in the Western	Laurie Anderson	Museum of Geology	University Of Kansas	Federal	01-Jul-2016	30-Jun-2019	\$104,491.00
MA1700001	Collaborative Research: On making wave energy an economical and reliable power source for ocean measurement applications	Umesh Korde	Mechanical Engineering	National Science Foundation	Federal	01-Jul-2016	30-Jun-2018	\$167,379.00
MA1700006	Collaborative Research: Unifying Mathematical and Statistical Approaches for Modeling Animal Movement and Resource Selection	Martha Garlick	Math & Computer Science	National Science Foundation	Federal	01-Aug-2016	31-Jul-2019	\$110,000.00
MA1700009	SuperCDMS SNOLAB Project Support	Richard Schnee	Physics	SLAC National Accelerator Laboratory	Federal	01-Jul-2016	30-Sep-2016	\$47,789.00
MA1700013	Photon Activation Analysis (PAA) of Heavy Metal Impurities in Prepared Samples	Douglas Wells	Physics	National Security Technologies, Inc	Federal	29-Aug-2016	28-Sep-2016	\$5,000.00
MA1700014	Advanced Bioelectrochemical Module (BEM) for Waste-to-Electricity Generation during Long-term Space Exploration	Venkata Gadhamshetty	Civil & Environmental Engineering	National Aeronautics And Space Administration	Federal	22-Aug-2016	23-Nov-2016	\$0.00
MA1700015	Combined Mechanical and Optical Experimental Setup	Cassandra Degen	Mechanical Engineering	Air Force Office Of Scientific Research	Federal	01-Sep-2016	31-Aug-2017	\$268,828.00
MA1700016	Sustaining Urban Waters through Green Infrastructure Planning and Development	Jennifer Benning	Civil & Environmental Engineering	Us Environmental Protection Agency	Federal	01-Sep-2016	31-Jan-2018	\$58,996.00
MA1700017	Underground Study of Stellar Neutron Sources for Trans-Fe Element Production in Stars	Frank Strieder	Physics	National Science Foundation	Federal	01-Sep-2016	31-Aug-2019	\$168,000.00
MA1700018	S-STEM: Culture and Attitude II	Michael West	Materials & Metallurgical Eng	National Science Foundation	Federal	01-Sep-2016	31-Aug-2021	\$982,102.00
MA1600062	Center for Acceleration of Research and Development on Electrospun Nanofibers (CARDEN)	Hao Fong	Chemistry and Applied Bio Science	Sd Board Of Regents	State	01-Jul-2016	30-Jun-2017	\$75,000.00
MA1600063	Surface Engineering Research Center (SERC)	Grant Crawford	Surface Engineering Rsch Ctr (SERC)	Sd Board Of Regents	State	01-Jul-2016	30-Jun-2017	\$294,102.00
MA1700005	Center for Advanced Sensors (CAS)	Hao Fong	Chemistry and Applied Bio Science	South Dakota State University	State	01-Jul-2016	31-May-2017	\$12,000.00
MA1700007	LCA Modeling for SD Oilseed Initiative	James Stone	Civil & Environmental Engineering	South Dakota State University	State	01-Jul-2016	30-Jun-2017	\$50,000.00
MA1700010	SDBOR FY17 Research and Development Innovation Grants Program	Jan Puszynski	Research Affairs	Sd Board Of Regents	State	22-Aug-2016	15-Jun-2018	\$200,000.00
MA1700011	CRGP Track 1: Biomechanics of Vascular Smooth Muscle Cell in Atherosclerosis	Hao Fong	Chemistry and Applied Bio Science	University of South Dakota	State	22-Aug-2016	21-Aug-2017	\$22,500.00
MA1700012	Physics-Based Modeling to Advance Research of Innovative Composite Joining Technologies	Cassandra Degen	Mechanical Engineering	Sd Board Of Regents	State	22-Aug-2016	21-Aug-2017	\$99,425.00

**State Board of Internal Controls Update—Mr. Tim Engel**

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**Recommended Action:**  
*Informational.*

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**2017 Legislative Update—Mr. Tim Engel**

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**Recommended Action:**  
*Informational.*

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

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Audit Committee Members:

- Ms. Pat Lebrun, Audit Chairperson
- Mr. Paul Christen, Audit Committee Member

The Audit Report for Fiscal Year Ended June 30, 2016 was discussed at the December 15, 2016 board meeting and requested for acceptance at the March 16, 2017 meeting; Audit Report attached.

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**Recommended Action:**

*Motion to accept the Audit Report for Fiscal Year Ended June 30, 2016.*



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# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **AUDIT REPORT**

**Fiscal Year Ended June 30, 2016**



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

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY  
AUTHORITY OFFICIALS  
June 30, 2016

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. Heather Wilson, 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  
C/O 500 EAST CAPITOL  
PIERRE SD 57501-5070  
(605) 773-3595

MARTIN L. GUINDON, CPA  
AUDITOR GENERAL

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

The Honorable Dennis Daugaard  
Governor of South Dakota

and

Board of Directors  
South Dakota Science and Technology Authority

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the South Dakota Science and Technology Authority (Authority), a business-type activities component unit of the State of South Dakota, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements and have issued our report thereon dated November 28, 2016.

**Internal Control Over Financial Reporting**

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

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

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

## Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free 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.

A handwritten signature in black ink, appearing to read "Martin L. Guindon". The signature is stylized with a large, looped "M" and a cursive "Guindon".

Martin L. Guindon, CPA  
Auditor General

November 28, 2016

SOUTH DAKTOA 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, 2016, 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, 2016, 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 through 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 basic 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 information 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 information is fairly stated in all material respects in relation to the basic financial statements as a whole.

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

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2016 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 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 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

November 28, 2016

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

### **MANAGEMENT'S DISCUSSION AND ANALYSIS**

**JUNE 30, 2016**

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, 2016 (FY 2016). 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 purpose of converting its acquired Homestake Mine property into an underground science and engineering laboratory. The property was donated to the Authority by Barrick Gold 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, schedule of operating expenses, and schedule of expenditures of federal awards. Comparisons of current year to prior year are important to display increases and decreases in various elements of the financial reports for the Authority. Current year detailed reports provide significant detail for statement of net position, revenues, expenses and cash flows for the Authority.

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

### **MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)** **JUNE 30, 2016**

#### **FINANCIAL HIGHLIGHTS:**

- Total assets at year-end decreased to \$111,753,227.
- Current and Other Assets decreased by \$5,064,246, primarily due to the expenditure of funds from the cash accounts being held by the State Treasurer on behalf of the Authority.
- Capital Assets decreased by \$2,783,966. Page 10 details the major capital asset additions and deletions. Furthermore, page 21 summarizes the changes in capital assets by major categories. Notable increases include the finalization of the Ross Campus project. An additional experiment space is now provided for a variety of science experiments. Significant decreases include the conveyance of the Sanford Lab Homestake Visitor Center including the building and exhibits to Homestake Visitor Center, Inc. as well as finalizing the support for the Sanford Science Education Center at Black Hills State University (BHSU).
- Net Pension Asset decreased on our Statement of Net Position by \$1,651,357. Even though the total contributions to the South Dakota Retirement System (SDRS) increased from 2014 to 2015, the Authority's proportionate share concerning our retirement plan decreased. (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, 2015 pension measurement date for our fiscal year end June 30, 2016 statements. Our proportionate share of the collective net pension asset equals \$2,158,428. A \$2,000,000 loan with the South Dakota Community Foundation has enabled the Authority to purchase xenon to be used in the future LZ experiment. As of June 2016 \$1,606,663 of xenon has been purchased. In summary, the Net Pension Asset and Xenon Purchased has decreased by \$44,694.
- 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, 2015. The total Deferred Outflows of Resources equals \$4,129,426.
- Total liabilities at year end increased to \$6,237,653, primarily due to an additional liability created by the signing of a loan agreement with the South Dakota Community Foundation. The \$2,000,000 loan is to be used for the purchase of xenon for the future LZ experiment. This loan is an eleven year, unsecured nonrecourse loan with 2.5% simple interest to be paid quarterly to the lender. The loan will be repaid at the end of the LZ experiment (approximately October 2026) from the sale proceeds of the xenon previously purchased.
- 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 investment earnings. Our portion equals \$3,184,802.
- Total restricted net position decreased to \$18,208,604, partially due to the expenditure of funds received from Mr. Sanford. Funds were expended on projects authorized by the Fourth Amendment to the Homestake Gift Agreement including the completion of the new Sanford Lab Homestake Visitor Center and the Sanford Science Education Center renovations at BHSU, and for additional underground laboratory space designated as the Ross Campus. An additional \$2,500,000 was repurposed from the Indemnification Fund in order for the Authority to provide initial capital and pay expenses associated with providing liability coverage from the newly formed South Dakota Authority Captive Insurance Company. However, restricted net position did increase for funds related to pension benefits as well as experiment funding set aside for xenon procurement, the related interest payments for xenon procurement loans, and infrastructure upgrades.
- Unrestricted net position decreased to \$3,727,119.
- Total net position at year end decreased to \$106,460,198.
- Charges for Services increased slightly to \$247,502. Revenue from Homestake increased slightly due to an increase in water being treated and discharged for Homestake.
- Operating Grants increased to \$24,889,116. The revenue received in this classification includes \$17,786,128 received from Lawrence Berkeley National Laboratory, \$6,664,485 from Fermi National Lab, and \$438,503 from the SD Governor's Office of Economic Development (GOED) and various smaller universities.
- There was no Pension Related Revenue as our proportionate share of the collective net pension asset from South Dakota Retirement System (SDRS) decreased from last year.

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

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

**JUNE 30, 2016**

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

- Capital Grants and Contributions decreased to \$2,282,782 (down \$4,911,586 from the prior year). The revenue received in this category includes \$2,000,000 from GOED infrastructure upgrade expenditures for the future LZ experiment. Additional contributions include \$25,000 from the Deadwood Historical Society, \$57,782 from the City of Lead, and \$200,000 from Black Hills Energy.
- Other Grants was a new revenue category added this year and includes \$2,000,000 from GOED for xenon procurement and interest payment expenditures on loan agreements.
- Investment Earnings increased slightly to \$337,182 compared to \$216,435 in the previous year.
- Total Program Expenses for the Authority were \$37,220,226 which represents an increase of 76.85 percent from the previous year. The majority of the increase includes the conveyance of the Sanford Lab Homestake Visitor Center to Homestake Visitor Center, Inc. The MOU (memorandum of Understanding) between the Lead Area Chamber of Commerce and the Authority stipulated that once finalized, it was to become the property of and be operated by Homestake Visitor Center, Inc. The amount expensed for this project was \$4,844,210. Similarly, the Sanford Science Education Center project at Black Hills State University has been completed which resulted in \$2,500,000 of expense. Furthermore, an additional \$2,500,000 was repurposed from the Indemnification Fund in order for the Authority to provide initial capital and pay liability coverage expenses associated with a newly formed Captive Insurance Company. The Captive was established to provide more comprehensive coverage at an overall lower cost. Over time, as capital grows it will allow the Authority to self-insure more risk and lower our overall costs of insurance. Also included in Total Program Expenses - Operating Expenses which increased by \$6,159,788 to \$27,160,179. Of the total expenses in this category, the major expenses were contractual services – 43.9 percent, personal services – 39.5 percent, and supplies, materials, and other operating expenses – 8.3 percent. The majority of the increase in Operating Expenses is a result of transferring the Ross Rehab costs to a subcontract with LBNL (federal funds through the Department of Energy) as of January 2016. Prior to that date, the costs were being covered by Sanford funds and State funds which were capitalized each year as Improvements in Progress.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

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

**JUNE 30, 2016**

**FINANCIAL STATEMENT ELEMENTS:**

**NET POSITION**

	<b>2016</b>	<b>2015</b>	<b>Dollar Change</b>	<b>Percent Change</b>
Current Assets	\$ 23,119,507	\$ 28,183,753	\$ (5,064,246)	-17.97%
Capital Assets	84,868,629	87,652,595	(2,783,966)	-3.18%
Net Pension Asset and Xenon Purchased	3,765,091	3,809,785	(44,694)	-1.17%
<b>Total Assets</b>	<b>111,753,227</b>	<b>119,646,133</b>	<b>(7,892,906)</b>	<b>-6.60%</b>
Pension Related Deferred Outflows	4,129,426	3,366,693	762,733	22.66%
Long-Term Liabilities Outstanding	2,602,661	686,728	1,915,933	278.99%
Other Liabilities	3,634,992	4,062,174	(427,182)	-10.52%
<b>Total Liabilities</b>	<b>6,237,653</b>	<b>4,748,902</b>	<b>1,488,751</b>	<b>31.35%</b>
Pension Related Deferred Inflows	3,184,802	4,412,373	(1,227,571)	-27.82%
<b>Net Position:</b>				
Net Investment in Capital Assets	84,524,475	87,131,074	(2,606,599)	-2.99%
Restricted	18,208,604	22,369,484	(4,160,880)	-18.60%
Unrestricted	3,727,119	4,350,993	(623,874)	-14.34%
<b>Total Net Position</b>	<b>\$ 106,460,198</b>	<b>\$ 113,851,551</b>	<b>\$ (7,391,351)</b>	<b>-6.49%</b>

**CHANGE IN NET POSITION**

	<b>2016</b>	<b>2015</b>	<b>Dollar Change</b>	<b>Percent Change</b>
<b>Revenues</b>				
Program Revenues:				
Charges for Services	\$ 247,502	\$ 207,254	\$ 40,248	19.42%
Operating Grants	24,889,116	19,373,689	5,515,427	28.47%
Miscellaneous	72,291	95,024	(22,733)	-23.92%
Pension Related Revenue	-	160,924	(160,924)	-100.00%
Capital Grants and Contributions	2,282,782	7,194,368	(4,911,586)	-68.27%
Other Grant Revenue	2,000,000	-	2,000,000	100.00%
General Revenues:				
Investment Earnings	337,182	216,435	120,747	55.79%
<b>Total Revenue</b>	<b>29,828,873</b>	<b>27,247,694</b>	<b>2,581,179</b>	<b>9.47%</b>
Program Expenses:				
Science and Technology Authority	37,220,226	21,046,711	16,173,515	76.85%
<b>Total Expense</b>	<b>37,220,226</b>	<b>21,046,711</b>	<b>16,173,515</b>	<b>76.85%</b>
Change in Net Position	(7,391,353)	6,200,983	(13,592,337)	-219.20%
Prior Period Adjustment	-	2,045,761	(2,045,761)	-100.00%
Net Position-Beginning	113,851,551	105,604,807	8,246,745	7.81%
<b>Net Position-Ending</b>	<b>\$ 106,460,198</b>	<b>\$ 113,851,551</b>	<b>\$ (7,391,353)</b>	<b>-6.49%</b>

By June 30, 2016, the Authority had invested \$84,868,629 in a broad range of capital assets, including computer equipment, land, buildings, improvements to infrastructure and the underground, and various machinery and equipment. \$20,551,152 of this \$84,868,629 (approximately 24% of this total value) was donated by Barrick Gold. This amount represents a net decrease (including additions and deductions) of \$2,783,966, or 3.18 percent, over the last year.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)**  
**JUNE 30, 2016**

**CAPITAL ASSETS (Net of Depreciation)**

	2016	2015	Change
Improvements	\$ 31,977,971	\$ 29,745,184	\$ 2,232,787
Underground	17,767,955	17,250,828	517,128
Buildings	5,615,699	5,761,452	(145,753)
Computer Equipment	76,685	59,147	17,538
Equipment	7,056,727	7,332,534	(275,807)
Construction in Progress	19,258,934	24,336,743	(5,077,809)
Land	1,579,298	1,579,298	-
Infrastructure	1,408,819	1,447,426	(38,607)
Furniture	34,951	39,941	(4,990)
Archive Material	70,000	70,000	-
Auto	21,590	30,043	(8,453)
<b>Total Capital Assets</b>	<b>\$ 84,868,629</b>	<b>\$ 87,652,595</b>	<b>\$ (2,783,966)</b>

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

*Purchased Capital Assets:*

Computer Servers/Switches	\$ 42,602
Conference Room Smart Board/Digital Media	101,713
Cable Pull Assembly	5,763
Industrial Vacuum System	47,985
(2) Yates Skip Cage Bonnets	46,187
Ross Campus Air Handling Units/Chillers/Heat Exchanger	142,334
Control Actuator/Globe Valve	8,979
Cryofab Liquid Nitrogen System	22,654
(2) Neutron Doors	89,520
Lighting Inverter	10,000
300 KVA Transformer	20,572
Fire Alarm Panel	18,292
Reliable Preaction Valve	12,801

*Improvements (Current Year Additions):*

Ross Campus Shotcrete	419,793
Ross Campus Cleanroom	2,541,236
Ross Water Suppression System	232,972
Ross Campus Excavation	329,558
Underground Mitigation Improvements	187,570

*Improvements in Progress (Current Year Additions):*

Ross Shaft Rehabilitation	2,577,744
CASPAR Experiment Development	139,822
Water Inflow Pipe System	209,828
LUX/Zeplin Facility Upgrades	545,396

*Improvements in Progress (Current Year Deletions):*

Sanford Lab Homestake Visitor Center	(4,844,210)
Sanford Science Education Center at BH State University	(2,500,000)

## SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

### MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) JUNE 30, 2016

#### LONG-TERM DEBT

At the year-end, the Authority had \$2,602,661 in other long-term obligations. This is an increase of 278.99 percent as shown below.

	2016	2015	Total Dollar Change	Total Percentage Change
Compensated Absences	\$ 443,101	\$ 342,575	\$ 100,526	29.34%
Capital Acquisition Lease	159,560	344,154	(184,594)	-53.64%
Xenon Notes Payable	2,000,000	-	2,000,000	100.00%
Total Long-Term Debt	2,602,661	686,729	1,915,932	278.99%

- (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 increase is due to an increase in number of employees and the corresponding amount of leave accumulated and outstanding at the end of the year. Additionally, a prior operating lease was renegotiated resulting in the conversion to a capital lease. Included in the increase is the xenon note payable to the South Dakota Community Foundation. Note (4) Long-Term Debt in the Notes to Financial Statements on page 22 details the 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 secured to receive continued funding for Operations in the future.
- The Authority's Board of Directors approved a capital budget for fiscal year 2016 of \$12,215,257 towards the Ross Shaft rehabilitation project, concluding the facility development for the Ross Campus on the 4850-foot level, and finalizing the Sanford Science Education Center at BH State University renovation and construction of the Sanford Lab Homestake Visitor Center. Additional projects included experiment development for the Compact Accelerator System for Performing Astrophysical Research (CASPAR), as well as xenon procurement for the LZ experiment and upgrades to surface and underground facilities for the future G2-LZ (Generation 2 LUX-Zeplin) experiment. Actual expenditures for the year totaled \$7,540,961. Actual expenses were lower than budgeted partially due to the Ross Shaft rehabilitation project transitioning to a contract with LBNL with federal funding. Estimated costs through December 2016 totaled \$6,538,046 with an initial allocation of \$4,500,000 for this project. Funding for the balance of these projects had been designated primarily from the Sanford funds including a portion of Gift No. 2. Funding for xenon procurement and the upgrades for the LZ experiment was secured with the signing of Letter Agreement #1586 in August 2015 with the Governor's Office of Economic Development (GOED) and through separate funding from Foundations.
- Additionally, an operations budget of \$15,043,116 had been approved to manage and operate the facility for the federal fiscal year October, 2015 – September 2016. Modifications to Subcontract No. 6994297 were signed with Lawrence Berkeley National Laboratory for this additional DOE funding. Actual expenditures were \$14,727,035. Thus, the Authority was under budget by \$316,081 for the federal fiscal year.

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

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

**JUNE 30, 2016**

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

- Further funding was received in fiscal year 2016 through LBNL in support of various small projects including the LUX (Large Underground Xenon) experiment. This award reimbursed the Authority for expenses incurred in support of the LUX for various materials and supplies as well as a percentage of the salaries of the Design Team members, for their project management skills essential to the work being performed. One other small subcontract supplied further funding to the Authority. Included was support for the G2-LZ (Generation 2 LUX-Zeplin) investigations. Additional funding was received through LBNL for the Ross Shaft rehabilitation project as well as another small drilling project labeled kISMET.
- 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 tons of rock to the surface will begin in 2017. The excavation for the two caverns to house the neutrino detectors and related utilities is expected to begin in the fall of 2018. Contracts have been executed with Fermi National Accelerator Laboratory (FNAL) for these efforts. Funds were received for professional engineering management services for design and construction as well as efforts supporting the National Environmental Policy Act (NEPA) process and required environmental assessment. Other contracts added support for Phase 2 - Geotechnical Exploration for LBNE. Additional support was received for Excavation Preliminary and Final Design, Building/Site Infrastructure, as well as funding for a blast vibration study and surface rock handling through final design. DOE support continues into fiscal year 2017 for the LBNF project.
- Additional funding was received during the fiscal year from various institutions including University of North Carolina, Oak Ridge National Laboratory, and the University of Minnesota. Funds were received at SURF to support the Majorana experiment located at the 4850-foot level Davis Campus, as well as the development of Deep Underground Gravity Laboratories (DUGL) on three underground levels. Support continues in fiscal year 2017 from Oak Ridge National Laboratory as well as University of Minnesota.
- 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 2017.
- The Authority's fiscal year 2017 capital budget provides for spending \$6,850,095. Projects include concluding the (CASPAR) experiment development, continuing the surface and underground upgrades for the future G2-LZ (Generation 2 LUX-Zeplin) experiment that will be located in the Davis Campus, as well as the procurement of xenon for the LZ experiment. Funding for the LZ projects will be facilitated through a letter agreement with the Governor's Office of Economic Development (GOED) for \$6,000,000 along with loan agreements for \$6,000,000 from state foundations. Agreements have been signed with the South Dakota Community Foundation, South Dakota State University Foundation, and University of South Dakota Foundation for \$2,000,000 each to be used towards the purchase of xenon. The Authority's Board of Directors also approved a budget of \$554,573 in favor of Authority supported activities.



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

### **MANAGEMENT’S DISCUSSION AND ANALYSIS (CONCLUDED) JUNE 30, 2016**

#### **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 July 8, 2016 commits an additional \$200,000 toward education and outreach priorities for the period July 2016 – June 2017. Funding for this agreement originated from a Letter Agreement #1524 between the SD Governor's Office of Economic Development (GOED) and the Authority. The full period of performance extends from June 2014 through May 2017. The first \$300,000 from the Governor's office was received in September 2014 and was extended to BHSU on a reimbursement schedule. Years two and three funding of \$300,000 and \$250,000 were received from GOED. The balance of year three funding will be received in May of 2017. Additional support of \$125,000 per year for four years for education programs was received from Great Plains Education Foundation. Funding will be received upon sending documented support of achievements.
- As of federal fiscal year 2017, our operations budget to manage and operate the facility is transitioning to Fermi National Accelerator Laboratory (FNAL). A “bridge” contract for the period of October 2016 through December 2016 has been submitted for approval. Following that will be a submittal for a five-year contract that will span the calendar years. The Ross Shaft rehabilitation contract extends through December 2016 with LBNL. This contract will also transition to FNAL from January 2017 through completion in late 2017.
- The Authority is in compliance 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, 2016**

**ASSETS**

**Current Assets**

Cash in Local Bank and Petty Cash	\$ 963,851
Cash on Deposit with State Treasurer	15,429,411
Accounts Receivable	3,799,532
Interest Receivable	43,088
Prepaid Expenses	440,720
Inventory of Supplies & Warehouse	2,442,905
<b>Total Current Assets</b>	<b>23,119,507</b>

**Noncurrent Assets**

Xenon Purchased (Note 5)	1,606,663
Net Pension Asset	2,158,428
Land	1,579,298
Underground	17,767,955
Improvements in Progress	19,258,934
Buildings, Machinery, Equipment and Infrastructure (Net) (Note 3)	46,262,442
<b>Total Noncurrent Assets</b>	<b>88,633,720</b>

**TOTAL ASSETS** **111,753,227**

**Deferred Outflows of Resources**

Pension Related Deferred Outflows	4,129,426
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**LIABILITIES**

**Current Liabilities**

Accounts Payable	2,538,750
Accrued Wages and Benefits	468,548
Accrued Leave, Benefits, and Capital Acquisition Lease (Note 4)	627,694
<b>Total Current Liabilities</b>	<b>3,634,992</b>

**Long-Term Liabilities**

Accrued Leave, Benefits, and Capital Acquisition Lease Net of Current Portion (Note 4)	602,661
Long-Term Xenon Notes Payable (Note 4)	2,000,000
<b>Total Long-Term Liabilities</b>	<b>2,602,661</b>

**TOTAL LIABILITIES** **6,237,653**

**Deferred Inflows of Resources**

Pension Related Deferred Inflows	3,184,802
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**NET POSITION**

Invested in Capital Assets	84,524,475
Restricted for:	
Mine Closure	1,407,531
Experiments	4,384,092
Indemnification	7,500,000
Sanford Center for Science Education	1,813,929
Pension	3,103,052
Unrestricted Net Position	3,727,119

**TOTAL NET POSITION** **\$ 106,460,198**

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, 2016**

<b>Operating Revenue</b>	
Charges for Goods and Services	\$ 247,502
Operating Grants	24,889,116
Miscellaneous	72,291
<b>Total Operating Revenue</b>	<b>25,208,909</b>
<b>Operating Expenses</b>	
Personal Services	10,739,403
Travel	193,971
Contractual Services	11,920,093
Supplies, Materials and Other Operating Expenses	2,251,164
Amortization Expense	177,367
Depreciation Expense	1,878,181
<b>Total Operating Expenses</b>	<b>27,160,179</b>
<b>Operating Loss</b>	<b>(1,951,270)</b>
<b>Nonoperating Revenues/Expenses</b>	
Grant Revenue	2,000,000
Interest Revenue	337,182
Other Expense	(10,060,047)
<b>Total Nonoperating Revenues/Expenses</b>	<b>(7,722,865)</b>
Loss Before Capital Grants	(9,674,135)
Capital Grants	2,282,782
<b>Change in Net Position</b>	<b>(7,391,353)</b>
<b>Net Position -- Beginning of Year</b>	<b>113,851,551</b>
<b>Net Position -- End of Year</b>	<b>\$ 106,460,198</b>

The accompanying notes are an integral part of this statement.

# SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

## STATEMENT OF CASH FLOWS FOR THE YEAR ENDED JUNE 30, 2016

### Cash Flows from Operating Activities:

Other Operating Cash Receipts	\$	311,499
Cash Receipts from Operating Grants		24,447,092
Cash Payments to Employees for Services		(10,795,500)
Cash Payments to Suppliers of Goods and Services		(14,284,037)
<b>Net Cash Used in Operating Activities</b>		<b>(320,946)</b>

### Cash Flows from Noncapital Financing Activities:

Grant Revenue		2,000,000
Proceeds from Xenon Notes Payable		2,000,000
Xenon Purchases		(1,252,366)
Interest/Insurance Paid on Xenon		(33,391)
Grants & Donations Paid		(2,500,000)
<b>Net Cash Provided by Noncapital Financing Activities</b>		<b>214,243</b>

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

Grant Revenue		2,361,103
Purchase of Capital Assets		(7,344,282)
Principal Paid on Capital Debt		(177,367)
Interest Paid on Capital Debt		(17,633)
<b>Net Cash Used in Capital and Related Financing Activities</b>		<b>(5,178,179)</b>

### Cash Flows from Investing Activities:

Interest Earnings		358,093
<b>Net Cash Provided by Investing Activities</b>		<b>358,093</b>

**Net decrease in Cash and Cash Equivalents** **(4,926,789)**

Cash and Cash Equivalents at Beginning of Year 21,320,051

**Cash and Cash Equivalents at End of Year** **\$ 16,393,262**

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

Operating Loss	\$	(1,951,270)
<i>Adjustments to Reconcile Operating Loss to Net Cash Used in Operating Activities:</i>		
Depreciation & Amortization Expense		2,055,548
<i>Change in Assets and Liabilities:</i>		
Receivables		(450,319)
Prepaid Expenses		(51,539)
Inventory of Supplies		1,684
Net Pension Asset		1,651,357
Decrease(Increase) in Deferred Outflow of Resources - Pension		(762,733)
Increase (Decrease) Deferred Inflow of Resources - Pension		(1,227,571)
Accounts and Other Payables		131,046
Accrued Wages Payable		81,797
Accrued Leave Payable		201,054
<b>Net Cash Used in Operating Activities</b>	<b>\$</b>	<b>(320,946)</b>

Continued on next page.

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**STATEMENT OF CASH FLOWS (CONTINUED)  
FOR THE YEAR ENDED JUNE 30, 2016**

**Cash and Cash Equivalents:**

Cash in Local Bank	\$	963,801
Petty Cash		50
Cash with State Treasurer		15,429,411
<b>Total Cash and Cash Equivalents</b>	<b>\$</b>	<b>16,393,262</b>

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

Loss on Disposal of Assets	\$	155,509
Donation of Capital Assets	\$	7,272,858

The accompanying notes are an integral part of this statement.

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

### **NOTES TO FINANCIAL STATEMENTS**

**JUNE 30, 2016**

#### **(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, 2016**

#### **(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, 2016**

#### **(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 4.31 hours per pay period. Upon termination, some employees are entitled to receive compensation for a portion of their sick leave balance. Those with seven years of service or more will receive compensation at the rate of 25 percent of their balance up to a maximum of 480 hours.

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

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

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

##### **Deposits**

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

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

##### **Investments**

In general, SDCL 1-16H-18 permits funds to be invested in (a) direct obligations of, or obligations the principal of and 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, 2016.



**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**NOTES TO FINANCIAL STATEMENTS (CONTINUED)**  
**JUNE 30, 2016**

**(3) Changes in Capital Assets**

A summary of changes in capital assets for the year ended June 30, 2016 is as follows:

	Balance June 30, 2015	Reclassified*	Increases	Decreases	Balance June 30, 2016
<b>Business-Type Activities:</b>					
Capital Assets, not Being Depreciated:					
Land	\$ 1,579,298	\$ -	\$ -	\$ -	\$ 1,579,298
Underground	17,250,828	329,558	187,570	-	17,767,956
Archive Materials	70,000	-	-	-	70,000
Construction Work in Progress (Note 9)	24,336,743	(8,485,299)	3,407,490	-	19,258,934
<b>Total Capital Assets, not Being Depreciated</b>	<b>43,236,869</b>	<b>(8,155,741)</b>	<b>3,595,060</b>	<b>-</b>	<b>38,676,188</b>
Capital Assets, Being Depreciated:					
Equipment Under Capital Lease	883,945	-	-	-	883,945
Automobiles	86,305	-	-	-	86,305
Buildings	7,223,086	-	-	-	7,223,086
Furniture	74,212	-	-	-	74,212
Computer Equipment	451,473	-	42,602	32,658	461,417
Improvements	33,812,540	2,029,489	1,164,513	-	37,006,542
Infrastructure	1,658,242	-	-	-	1,658,242
Machinery and Equipment	9,820,876	347,556	260,243	60,228	10,368,447
<b>Total Capital Assets, Being Depreciated</b>	<b>54,010,679</b>	<b>2,377,045</b>	<b>1,467,358</b>	<b>92,886</b>	<b>57,762,196</b>
<b>Total Capital Assets, Before Depreciation</b>	<b>97,247,548</b>	<b>(5,778,696)</b>	<b>5,062,418</b>	<b>92,886</b>	<b>96,438,384</b>
Less Accumulated Depreciation:					
Equipment Under Capital Lease	362,424	-	177,367	-	539,791
Automobiles	56,262	-	8,453	-	64,715
Buildings	1,461,633	-	145,753	-	1,607,386
Computer Equipment	392,326	-	25,063	32,658	384,731
Furniture	34,270	-	4,990	-	39,260
Improvements	4,067,357	-	961,214	-	5,028,571
Infrastructure	210,816	-	38,607	-	249,423
Machinery and Equipment	3,009,865	-	694,101	48,088	3,655,878
<b>Total Accumulated Depreciation</b>	<b>9,594,953</b>	<b>-</b>	<b>2,055,548</b>	<b>80,746</b>	<b>11,569,755</b>
<b>Capital Assets, Net</b>	<b>\$ 87,652,595</b>	<b>\$ (5,778,696)</b>	<b>\$ 3,006,870</b>	<b>\$ 12,140</b>	<b>\$ 84,868,629</b>

\*Reclassifications are due to the Authority performing analysis of assets that were previously grouped in construction work in progress as well as Sanford Lab Homestake Visitor Center and the Sanford Science Education Center project costs transferred as contributions. Various devices were transferred to equipment placed in service as of June 30, 2016.

# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

### **(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	\$ 685,148	\$ 672,807	\$ 471,753	\$ 886,202	\$ 443,101
Xenon Notes Payable	-	2,000,000	-	2,000,000	-
Capital Acquisition Lease	521,521	-	177,367	344,154	184,594
	<u>\$ 1,206,669</u>	<u>\$ 2,672,807</u>	<u>\$ 649,120</u>	<u>\$ 3,230,356</u>	<u>\$ 627,695</u>

#### *Xenon Notes Payable*

Loan Agreement with S.D. Community Foundation to purchase xenon. The loan is an 11 year, unsecured non recourse loan with 2.5% simple interest paid quarterly. The note is due on October 1, 2026. \$ 2,000,000

#### *Capital Acquisition Lease*

The Authority leases a deep level pump system from AmWest, Inc. - Hydro Resources. The lease is due in monthly installments of \$35,000 per month through December 31, 2017. The Interest Rate is 4%. \$ 344,154

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

The annual requirements to amortize long-term debt outstanding as of June 30, 2016, are as follows:

	Capital Acquisition Lease		Xenon Notes Payable		Totals	
	Interest	Principal	Interest	Principal	Interest	Principal
2017	\$ 10,406	\$ 184,594	\$ 50,000	\$ -	\$ 60,406	\$ 184,594
2018	2,940	159,560	50,000	-	52,940	159,560
2019			50,000	-	50,000	-
2020			50,000	-	50,000	-
2021			50,000		50,000	-
2022-2026			250,000		250,000	-
2027-2031			12,500	2,000,000	12,500	2,000,000
Total	<u>\$ 13,346</u>	<u>\$ 344,154</u>	<u>\$ 512,500</u>	<u>\$ 2,000,000</u>	<u>\$ 525,846</u>	<u>\$ 2,344,154</u>

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

Gross amount of assets under capital lease	\$ 883,945
Accumulated amortization	539,791
	<u>\$ 344,154</u>

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

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

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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)**

**JUNE 30, 2016**

#### **(5) Xenon Purchased**

Xenon purchased is valued at a cost per liter with additional freight, customs, and analysis charges. The total includes 20,000 liters purchased in 2013 valued at \$332,855 (average cost of \$16.64/liter), 100,000 liters purchased in November 2015 at \$6.80/liter valued at \$680,012, and 100,000 liters purchased in March 2016 at \$5.692/liter valued at \$593,796. Total xenon purchased to date is \$1,606,663.

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

##### **Plan Information:**

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

##### **Benefits Provided:**

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

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

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

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

##### **Contributions:**

Employees are required by state statute to contribute 6 percent of their salary to the plan. State statute also requires the employer to contribute an amount equal to the employee's contribution. State statute also requires the employer to make an additional contribution in the amount of 6.2 percent for any compensation exceeding the maximum taxable amount for social security. The Authority's contributions to the SDRS for the fiscal years ended June 30, 2016, 2015, and 2014 was \$573,626, \$557,420, and \$554,835, respectively, equal to the required contributions each year.

# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

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

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

At June 30, 2015, SDRS is 104.1% funded and accordingly has a net pension asset. The proportionate shares of the components of the net pension asset of South Dakota Retirement System, for the Authority as of June 30, 2015 are as follows:

Proportionate share of net position restricted for pension benefits	\$ 54,842,739
Less proportionate share of total pension liability	<u>52,684,311</u>
Proportionate share of net pension asset	<u><u>\$ 2,158,428</u></u>

At June 30 2016, the Authority reported an asset of \$2,158,428 for its proportionate share of the net pension asset. The net pension asset was measured as of June 30, 2015 and the total pension 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, 2015, the Authority's proportion was .5089089% which is a decrease of .0198907% from its proportion measured as of June 30, 2014.

For the year ended June 30, 2016, the Authority's recognized pension expense of \$234,678. At June 30, 2016 the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows Of Resources</u>	<u>Deferred Inflows Of Resources</u>
Difference between expected and actual experience	\$ 441,948	\$
Changes in assumption	1,711,498	
Net Difference between projected and actual earnings on pension plan investments	1,318,547	3,184,802
Changes in proportion and difference between Authority contributions and proportionate share of contributions	83,807	
Authority contributions subsequent to the measurement date	<u>573,626</u>	
TOTAL	<u>\$ 4,129,426</u>	<u>\$ 3,184,802</u>

# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

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

\$573,626 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, 2017. 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>	
2017	\$ 126,638
2018	126,638
2019	(250,788)
2020	<u>368,509</u>
TOTAL	<u>\$ 370,997</u>

#### **Actuarial Assumptions:**

The total pension asset in the June 30, 2015 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

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

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

The actuarial assumptions used in the June 30, 2015 valuation were based on the results of an actuarial experience study for the period July 1, 2005 through June 30, 2011. The mortality assumptions were revised based on an extension of the experience study including mortality experience through June 30, 2013.

Investment portfolio management is the statutory responsibility of the South Dakota Investment Council (SDIC), which may utilize the services of external money managers for management of a portion of the portfolio. SDIC is governed by the Prudent Man Rule (i.e., the council should use the same degree of care as a prudent man). Current SDIC investment policies dictate limits on the percentage of assets invested in various types of vehicles (equities, fixed income securities, real estate, cash, private equity, etc.). The long-term expected rate of return on pension plan investments was determined using a method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of real rates of return for each major asset class included in the pension plan's target asset allocation as of June 30, 2015 (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	61.0%	4.5%
Fixed Income	27.0%	1.8%
Real Estate	10.0%	5.2%
Cash	<u>2.0%</u>	0.8%
Total	<u>100%</u>	

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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

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

##### **Discount Rate:**

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

##### **Sensitivity of (liability) to changes in the discount rate:**

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

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Authority's proportionate share of the net pension (liability) asset	\$ (5,432,739)	\$ 2,158,428	\$ 8,348,371

##### **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, 2016, the Authority managed its risks as follows:

##### **Building Structure Charges:**

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

##### **Personal Property Insurance:**

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

##### **Employee Health Insurance:**

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

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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)**

**JUNE 30, 2016**

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

##### Liability Insurance:

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

##### Worker's Compensation:

At the policy renewal date of 06/01/16 the Authority continues to purchase workmen's compensation through the South Dakota Worker's Compensation Insurance Plan. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

##### Unemployment Benefits:

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

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

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

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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

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

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 through 2017, resulting in an overall savings of \$150,000. Additionally, the agreement calls for the leased property to become the property of the lessee on January 1, 2018 without any additional payment. It will then become the property of the Federal Government as these capital asset-type costs are being charged direct to the subcontract with LBNL.

In November 2013, the Authority entered into a contract with Ainsworth-Benning Construction Company in the amount of \$3,387,284 for the construction of the Sanford Lab Visitor Center to replace the Lead Homestake Visitor Center. Subsequent change orders increased the contract amount to \$3,694,068. Construction began in July 2014 and was substantially completed by the grand opening date of June 30, 2015. Additional contracts were signed with C & G Partners, Situ Fabrication, and Formations Inc. for exhibit design and fabrication. Included was a sculptural model of the SURF landscape and underground tunnel network. The project has been completed and ownership has been transferred to the Homestake Visitor Center Inc.

A contract was signed in early January 2014 with the South Dakota School of Mines and Technology (SDSM&T) to be the lead institution for the accelerator project known as (CASPAR) Compact Acceleration System Performing Astrophysical Research. With an additional change order the contract total is \$999,334 and extends into fiscal year 2017. This project is located in the new Ross Campus laboratory at the 4850' Level. Another underground facility was completed as a laboratory for Black Hills State University to support low background counting activities, biology study workstations, and other future small scale experiments. Contracts have been signed with both institutions whereby each will pay the Authority for reasonable energy costs and any other specific needed supplies. A contract with Dean Kurtz Construction was entered into in January 2014 for \$2,668,062 for the design and outfitting of both facilities. With additional change orders, the contract amount was increased to \$2,745,167. Construction was substantially completed in September 2015 allowing experimenters to move into the facilities.

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 an average total gallons treated per minute per month. Revenue from this agreement for the past two years was \$243,992 and \$206,036 respectively. Revenue was slightly higher this last year due to the number of gallons treated being slightly higher. 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 \$198,000; somewhat lower than last year's actual due to decreasing Homestake water to be treated. The term of the contract runs to September 30, 2020.

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



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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)**

**JUNE 30, 2016**

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

The Authority, along with the South Dakota Bureau of Administration, and five additional South Dakota Authorities signed a Joint Powers Agreement on June 1, 2015 to form a captive insurance company to insure against certain risks. \$2,500,000 was repurposed in August 2015 from a portion of the \$10,000,000 Indemnification Fund held by the Authority. The original Appropriation Act for the indemnification fund that was made by the State Legislature in 2004 was included as a part of the agreement between Homestake Mining Company and the Authority. Homestake Mining Company has 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 in order 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. \$4,000,000 has been received from the State as well as \$2,000,000 from the South Dakota Community 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.

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

The Authority accumulates the costs of construction projects in Construction Work in Progress until such time as the projects are completed and/or placed in service. Some of the ongoing improvement projects are capitalized as they progress. The \$19,258,934 of construction work in progress at June 30, 2016, consisted of \$17,665,235 of accumulated costs for the Ross Shaft rehabilitation project, \$838,475 for the (CASPAR) experiment development, \$545,396 for LZ facility upgrades, and \$209,828 for a water inflow pipe system project. The costs accumulated consist of amounts under contract in addition to materials and other expenses purchased by the Authority. The remaining commitment on existing contracts at June 30, 2016 is approximately \$7,983,086. These commitments are to be paid for using current funds that have been redirected from the Sanford Gift #2 as well as the \$12,000,000 funding for the LZ infrastructure/laboratory upgrades, and xenon procurement.

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

The DOE's 2017 budget includes approximately \$14 million to fund basic operations at the Sanford Lab. This basic operations funding is being transitioned through FNAL (Fermi National Accelerator Laboratory). A three-month bridge contract for \$3,624,224 has been approved by FNAL for support for October through December 2016. Further negotiations are in process for a five-year contract for DOE operations funding starting January 2017. Additionally, Authority support for the LUX/Zepplin experiment design has been extended to September 2018. Further support for designs for underground and surface needs for the LBNF (Long Baseline Neutrino Facility) are in place with subcontracts through FNAL (Fermi National Accelerator Laboratory). LBNF construction could start as early as the middle of 2017 with the experiment running through approximately 2040.

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

### **NOTES TO FINANCIAL STATEMENTS (CONTINUED)** **JUNE 30, 2016**

#### **(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 with amendments is for \$395,000 and extends to January 3, 2019. For the period of July 1, 2015 – June 30, 2016, he was paid \$70,039.22 for his consulting services. Mr. Wheeler will assist in directing the state and federal government affairs programs for the Authority. Furthermore, he will maintain and foster private funding sources for the long-term growth of the facility.



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

South Dakota Retirement System  
Last 10 Fiscal Years \*

	2015	2014
Authority's proportion of the net pension liability (asset)	0.5089089%	0.5287996%
Authority's proportionate share of net pension liability (asset)	\$ (2,158,428)	\$ (3,809,788)
Authority's covered employer payroll	\$ 9,042,866	\$ 8,888,749
Authority's proportionate share of the net pension liability (asset) as a percentage of its covered employee payroll	23.87%	42.86%
Plan fiduciary net position as a percentage of the total pension liability (asset)	104%	107%

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

# SCHEDULE OF EMPLOYER CONTRIBUTIONS

## South Dakota Retirement System Last 10 Fiscal Years \*

	2016	2015
Contractually required contribution	\$ 573,626	\$ 557,420
Contributions in relation to the contractually required contribution	573,626	557,420
Contribution deficiency (Excess)	\$ -	\$ -
Authority's covered-employer payroll	\$ 9,256,007	\$ 9,042,866
Contributions as a percentage of covered-employee payroll	6.20%	6.16%

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

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

**Changes of benefit terms:**

No significant changes.

**Changes of assumptions:**

No significant changes.



**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**SCHEDULE OF OPERATING EXPENSES  
FOR THE YEAR ENDED JUNE 30, 2016**

**Personal Services**

Employee Salaries	\$	7,513,435
Employee Benefits		3,225,968
<b>Total Personal Services</b>		<b>10,739,403</b>

**Travel**

Meals and Lodging	43,869
Auto and Fleet Services	30,920
Air - Commercial and Charter	51,405
Incidentals to Travel	2,752
Non-Employee Travel	64,960
Meals (Not Overnight)	65
<b>Total Travel</b>	<b>193,971</b>

**Contractual Services**

Equipment Rental	106,797
Contractual - Other	7,364,751
Insurance	395,261
Lobbying	215,000
Computer Services	209,587
Telecommunications	48,729
Monitoring and Programming	75,070
Legal Consultant	58,972
Training	27,474
Consultant Fees - Accounting and Auditing	16,897
Promotion and Advancement	14,975
Dues and Memberships	5,039
Utilities	2,230,288
Maintenance and Repairs	1,151,253
<b>Total Contractual Services</b>	<b>11,920,093</b>

**Supplies, Materials and Other Operating Expenses**

Maintenance and Repairs	1,393,801
Other Supplies and Equipment	747,635
Other Expenses	3,888
Office Supplies and Equipment	22,058
Safety	8,452
Licenses and Permits	38,274
Workshop and Registration Fees	33,882
Postage	2,551
Bank Charges	623
<b>Total Supplies, Materials and Other Operating Expenses</b>	<b>2,251,164</b>

<b>Amortization Expense</b>	177,367
<b>Depreciation Expense</b>	1,878,181

<b>Total Operating Expenses</b>	<b>\$</b>	<b>27,160,179</b>
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**Financial Report—Mr. Mike Headley**

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The Financial Summaries for February 2017 are attached. They can also be found in Item 10A Executive Director's Report.

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**Recommended Action:**

*9A. Motion to accept the Financial Report as presented.*

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# Finance & HR Department—Appendix D

REPORT DATE 03/07/17

SOUTH DAKOTA SCIENCE & TECHNOLOGY

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PAGE 0001

DIVISION: ALL

BALANCE SHEET

## ASSETS

AS OF  
02/28/17

### CURRENT ASSETS

First Interstate Checking	\$ 551,276.20
First Interstate Other	17,199.41
	-----
Total in Local Checking	568,475.61
SD Treas: Indemnification	7,500,000.00
SD Treas: Mine Closure	1,398,522.89
SD Treas: Operating	361,693.54
SD Treas: Sanford Gift #2	1,039,727.97
SD Treas: Experiments	3,364,350.84
	-----
Total with SD Treasurer	13,664,295.24
Billed A/R	2,674,393.33
Unbilled A/R	543,240.09
Other A/R	237,193.77
Inventory - Supplies	2,408,322.74
Inventory - Warehouse	34,449.62
Other Current Assets	393,304.76
	-----
Total Current Assets	20,523,675.16

### FIXED ASSETS

Land, Underground & Other	12,398,635.03
Bldgs & Infrastructure	9,122,537.68
Improvements	63,074,266.88
Computer Equipment	440,207.18
Equipment & Fixtures	10,580,972.55
Accum Depr & Amort	(12,272,672.81)
	-----
Total Fixed Assets	83,343,946.51

### OTHER ASSETS

Work in Process	3,334,448.33
Equipment - Capital Lease	268,134.61
Pension Deferred Outflows	6,287,854.00
Xenon Purchased	1,606,663.11
	-----
Total Other Assets	11,497,100.05

### TOTAL ASSETS

=====

\$ 115,364,721.72

=====

DIVISION: ALL

## BALANCE SHEET

## LIABILITIES &amp; EQUITY

AS OF  
02/28/17

## CURRENT LIABILITIES

Accounts Payable	\$ 1,028,498.03
Other Payables	100,280.58
	-----
Total Accounts Payable	1,128,778.61
Accrued Payroll Liab	1,367,151.69
	-----
Total Current Liabilities	2,495,930.30

## OTHER LIABILITIES

LT Accrued EB/Lease	268,134.61
LT Xenon Notes Payable	4,000,000.00
Pension Deferred Inflows	3,184,802.00
	-----
Total Other Liabilities	7,452,936.61

## EQUITY

Restricted: Indemnificati	7,500,000.00
Restricted: Mine Closure	1,398,522.89
Restricted: Sanford Gift2	1,039,727.97
Restricted: Pension	3,103,052.00
Restricted: Experim. Int.	3,364,350.84
	-----
Total Restricted Funds	16,405,653.70
Investment in Gen FA	83,343,946.51
Unrestricted Funds	5,666,254.60
	-----
Total Equity	105,415,854.81

## TOTAL LIABILITIES &amp; EQUITY

=====

\$ 115,364,721.72

=====

ALL

## STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/17

	YR-TO-DATE
	<hr/>
REVENUE	
DOE Subcontracts	\$ 17,954,607.55
NSF/NASA Subcontracts	10,208.70
State Revenue	12,000.00
Contributions & Donations	125,000.00
Checking Interest	495.52
Interest Income	93,528.12
	<hr/>
TOTAL REVENUE	18,195,839.89
DIRECT COSTS	
Direct Labor	4,985,614.86
ERT Labor	13,851.00
Board of Directors	5,669.01
Capital Outlay >\$5K	574,651.00
Contractual Svcs	4,270,447.33
Inventory	138,029.02
Supplies	1,099,900.90
Travel - Domestic	45,136.90
Travel - Foreign	51,587.49
Utilities	1,406,006.01
Other Direct Costs	126,884.67
Unallow/Unbill Costs	244,851.36
	<hr/>
TOTAL DIRECT COSTS	12,962,629.55
INDIRECT COSTS	
Fringe Benefits	2,801,306.40
Overhead	3,654,251.55
	<hr/>
TOTAL INDIRECT COSTS	6,455,557.95
	<hr/>
GROSS PROFIT FROM OPERATIONS	(1,222,347.61)
	<hr/>
OTHER INCOME	
Water Treatment	89,806.50
Miscellaneous Income	86,107.87
Other Operating Income	2,090.88
	<hr/>
TOTAL OTHER INCOME	178,005.25
OTHER EXPENSES	
Reclass Incr Net Assets	(1,180,528.31)
	<hr/>
TOTAL OTHER EXPENSES	(1,180,528.31)
	<hr/>
NET INCOME/LOSS ( )	136,185.95

=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## ASSETS

	AS OF 02/28/17	AS OF 02/29/16	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 551,276.20	\$ 1,550,301.97	\$ (999,025.77)	-64.44%
First Interstate Other	17,199.41	27,632.44	(10,433.03)	-37.76%
	-----	-----	-----	-----
Total in Local Checking	568,475.61	1,577,934.41	(1,009,458.80)	-63.97%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
SD Treas: Operating	361,693.54	168,270.49	193,423.05	114.95%
SD Treas: Sanford	-	289,289.35	(289,289.35)	-100.00%
SD Treas: Sanford Gift #2	1,039,727.97	2,355,954.97	(1,316,227.00)	-55.87%
SD Treas: Experiments	3,364,350.84	3,054,502.00	309,848.84	10.14%
	-----	-----	-----	-----
Total with SD Treasurer	13,664,295.24	14,747,937.99	(1,083,642.75)	-7.35%
Billed A/R	2,674,393.33	2,004,609.80	669,783.53	33.41%
Unbilled A/R	543,240.09	512,897.86	30,342.23	-5.92%
Other A/R	237,193.77	123,096.54	114,097.23	92.69%
Inventory - Supplies	2,408,322.74	2,521,607.24	(113,284.50)	-4.49%
Inventory - Warehouse	34,449.62	368,921.81	(334,472.19)	-90.66%
Other Current Assets	393,304.76	292,777.09	100,527.67	34.34%
	-----	-----	-----	-----
Total Current Assets	20,523,675.16	22,149,782.74	(1,626,107.58)	-7.34%
<b>FIXED ASSETS</b>				
Land, Underground & Other	12,398,635.03	12,398,635.03	-	0.00%
Bldgs & Infrastructure	9,122,537.68	8,881,327.62	241,210.06	2.72%
Improvements	63,074,266.88	64,557,726.85	(1,483,459.97)	-2.30%
Computer Equipment	440,207.18	455,888.25	(15,681.07)	-3.44%
Equipment & Fixtures	10,580,972.55	10,146,817.44	434,155.11	4.28%
Accum Depr & Amort	(12,272,672.81)	(10,370,552.35)	(1,902,120.46)	18.34%
	-----	-----	-----	-----
Total Fixed Assets	83,343,946.51	86,069,842.84	(2,725,896.33)	-3.17%
<b>OTHER ASSETS</b>				
Work in Process	3,334,448.33	4,328,647.80	(994,199.47)	-22.97%
Equipment - Capital Lease	268,134.61	404,065.01	(135,930.40)	-33.64%
Pension Deferred Outflows	6,287,854.00	7,176,478.00	(888,624.00)	-12.38%
Investment Captive Insurance	-	2,500,000.00	(2,500,000.00)	-100.00%
Xenon Purchased	1,606,663.11	-	1,606,663.11	100.00%
	-----	-----	-----	-----
Total Other Assets	11,497,100.05	14,409,190.81	(2,912,090.76)	-20.21%
<b>TOTAL ASSETS</b>				
	=====	=====	=====	=====
	\$ 115,364,721.72	\$ 122,628,816.39	\$ (7,264,094.67)	-5.92%
	=====	=====	=====	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 02/28/17	AS OF 02/29/16	\$ CHANGE	% CHANGE
<hr/>				
CURRENT LIABILITIES				
Accounts Payable	\$ 1,028,498.03	\$ 1,297,540.10	\$ (269,042.07)	-20.73%
Other Payables	100,280.58	8,091.16	92,189.42	1139.38%
	-----	-----	-----	-----
Total Accounts Payable	1,128,778.61	1,305,631.26	(176,852.65)	-13.55%
Accrued Payroll Liab	1,367,151.69	1,200,838.97	166,312.72	13.85%
	-----	-----	-----	-----
Total Current Liabilities	2,495,930.30	2,506,470.23	(10,539.93)	-0.42%
OTHER LIABILITIES				
LT Accrued EB/Lease	268,134.61	404,065.01	(135,930.40)	-33.64%
LT Xenon Notes	4,000,000.00	2,000,000.00	2,000,000.00	100.00%
Pension Deferred Inflows	3,184,802.00	4,412,373.00	(1,227,571.00)	-27.82%
	-----	-----	-----	-----
Total Other Liabilities	7,452,936.61	6,816,438.01	636,498.60	9.34%
TOTAL LIABILITIES	9,948,866.91	9,322,908.24	625,958.67	6.71%
EQUITY				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Captive	-	2,500,000.00	(2,500,000.00)	-100.00%
Restricted: Sanford I.Lab	-	289,289.35	(289,289.35)	-100.00%
Restricted: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
Restricted: Sanford Gift2	1,039,727.97	2,221,455.00	(1,181,727.03)	-53.20%
Restricted: Pension	3,103,052.00	2,764,105.00	338,947.00	12.26%
Restricted: Experim. Int.	3,364,350.84	3,054,502.00	309,848.84	10.14%
	-----	-----	-----	-----
Total Restricted Funds	16,405,653.70	19,709,272.53	(3,303,618.83)	-16.76%
Investment in Gen FA	83,343,946.51	86,069,842.84	(2,725,896.33)	-3.17%
Unrestricted Funds	5,666,254.60	7,526,792.78	(1,860,538.18)	-24.72%
	-----	-----	-----	-----
TOTAL EQUITY	105,415,854.81	113,305,908.15	(7,890,053.34)	-6.96%
TOTAL LIABILITIES & EQUITY	<u>\$ 115,364,721.72</u>	<u>\$ 122,628,816.39</u>	<u>\$ (7,264,094.67)</u>	<u>-5.92%</u>

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/17

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 17,954,607.55	\$ 14,400,404.01	\$ 3,554,203.54	24.68%
NSF/NASA Subcontracts	10,208.70	1,134.98	9,073.72	799.46%
State Revenue	12,000.00	2,023,457.04	(2,011,457.04)	-99.41%
Contributions & Donations	125,000.00	407,781.62	(282,781.62)	-69.35%
Checking Interest	495.52	113.49	382.03	336.62%
Interest Income	93,528.12	78,063.87	15,464.25	19.81%
	-----	-----	-----	-----
TOTAL REVENUE	18,195,839.89	16,910,955.01	1,284,884.88	7.60%
DIRECT COSTS				
Direct Labor	4,985,614.86	4,852,916.02	132,698.84	2.73%
ERT Labor	13,851.00	20,326.14	(6,475.14)	-31.86%
Board of Directors	5,669.01	9,320.70	(3,651.69)	-39.18%
Capital Outlay >\$5K	574,651.00	130,040.65	444,610.35	341.90%
Contractual Svcs	4,270,447.33	4,405,025.81	(134,578.48)	-3.06%
Inventory	138,029.02	193,977.04	(55,948.02)	-28.84%
Supplies	1,099,900.90	654,526.71	445,374.19	68.05%
Travel - Domestic	45,136.90	60,591.79	(15,454.89)	-25.51%
Travel - Foreign	51,587.49	34,962.18	16,625.31	47.55%
Utilities	1,406,006.01	1,545,652.05	(139,646.04)	-9.03%
Other Direct Costs	126,884.67	162,298.77	(35,414.10)	-21.82%
Unallow/Unbill Costs	244,851.36	236,827.97	8,023.39	3.39%
	-----	-----	-----	-----
TOTAL DIRECT COSTS	12,962,629.55	12,306,465.83	656,163.72	5.33%
INDIRECT COSTS				
Fringe Benefits	2,801,306.40	2,525,316.96	275,989.44	10.93%
Overhead	3,654,251.55	2,708,231.38	946,020.17	34.93%
	-----	-----	-----	-----
TOTAL INDIRECT COSTS	6,455,557.95	5,233,548.34	1,222,009.61	23.35%
	-----	-----	-----	-----
GROSS PROFIT	(1,222,347.61)	(629,059.16)	(593,288.45)	-94.31%
	-----	-----	-----	-----
OTHER INCOME				
Water Treatment	89,806.50	179,295.63	(89,489.13)	-49.91%
Miscellaneous Income	86,107.87	56,247.36	29,860.51	53.09%
Other Operating Income	2,090.88	2,437.06	(346.18)	-14.20%
	-----	-----	-----	-----
TOTAL OTHER INCOME	178,005.25	237,980.05	(59,974.80)	-25.20%
OTHER EXPENSES				
Loss(Gain) on Sale of FA	-	154,564.38	(154,564.38)	-100%
Reclass Incr Net Assets	(1,180,528.31)	(1,061,231.64)	(119,296.67)	11.24%
	-----	-----	-----	-----
TOTAL OTHER EXPENSES	(1,180,528.31)	(906,667.26)	(273,861.05)	30.21%
	=====	=====	=====	=====
NET INCOME/LOSS ( )	\$ 136,185.95	\$ 515,588.15	\$ (379,402.20)	-73.59%
	=====	=====	=====	=====



**South Dakota Science & Technology Authority**  
**Available Resources**  
**2/28/2017**

Cash Total Checking	\$ 551,276
Cash With State Treasurer	<u>\$ 13,664,295</u>
Total Cash	\$ 14,215,571
Less: Restricted Funds	
Indemnification/Mine Closure	\$ (8,898,523)
Experiments (Xenon, Interest,Infrastructure)	<u>\$ (3,364,351)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 1,952,697
Plus: Accounts Receivable Billed	\$ 2,674,393
Accounts Receivable Unbilled	\$ 543,240
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (2,495,930)</u>
Available Cash	<u><u>\$ 2,674,400</u></u>

## SDSTA Operating Budget Summary FY2017

Actual vs Budget

Feb. 2017 &amp; YTD

	Feb. 2017	Budget	\$ Over/Under Budget	% of Budget	Actual YTD	YTD Budget	\$ Over/Under Budget	% of Budget	% Remaining
									100%
SDSTA (Authority) Direct Charges									
Board of Directors	\$18,425.00	\$19,900.00	\$1,475.00	92.59%	\$148,606.00	\$159,200.00	\$10,594.00	93.35%	6.65%
Executive Office	\$19,904.00	\$22,144.00	\$2,240.00	89.88%	\$130,532.00	\$132,326.00	\$1,794.00	98.64%	1.36%
Science Center E & O	\$0.00	\$0.00	\$0.00	0.0%	\$34,804.00	\$29,749.00	-\$5,055.00	116.99%	-16.99%
Science Liaison	-\$42.00	\$0.00	\$42.00	100.0%	-\$1,557.00	\$0.00	\$1,557.00	0.00%	0.00%
Sanf.L. Visitor C. (Director)	\$3,477.00	\$3,929.00	\$452.00	88.5%	\$52,120.00	\$56,727.00	\$4,607.00	91.88%	8.12%
Subtotal	\$41,764.00	\$45,973.00	\$4,209.00	90.85%	\$364,505.00	\$378,002.00	\$13,497.00	96.43%	3.57%
Federal/State Funding - Direct Charges									
Fermi P.O.#620223 Building/Infra.	\$0.00	\$0.00	\$0.00	0.0%	\$11,814.00	\$30,000.00	\$18,186.00	39.38%	60.62%
Fermi P.O.#625500 F.SiteFacil.Servic	\$0.00	\$0.00	\$0.00	0.0%	\$61,775.00	\$75,498.00	\$13,723.00	81.82%	18.18%
Fermi P.O.#625501 Engin.Services	\$0.00	\$0.00	\$0.00	0.0%	\$151,772.00	\$156,607.00	\$4,835.00	96.91%	3.09%
Fermi P.O.#625691 B/Site Final Des.	\$118,674.00	\$120,000.00	\$1,326.00	98.9%	\$1,216,504.00	\$1,270,000.00	\$53,496.00	95.79%	4.21%
Fermi P.O.#625692 Pre Excav.F.D.	\$0.00	\$0.00	\$0.00	0.0%	\$926,918.00	\$960,000.00	\$33,082.00	96.55%	3.45%
Fermi P.O.Miscellaneous	\$31,269.00	\$33,176.00	\$1,907.00	94.25%	\$63,205.00	\$119,664.00	\$56,459.00	52.82%	47.18%
Fermi P.O.#631450 Engin. Services	\$16,750.00	\$21,022.00	\$4,272.00	79.68%	\$35,199.00	\$42,174.00	\$6,975.00	83.46%	16.54%
Fermi C#629760 Bridge OPS	\$897,240.00	\$922,063.00	\$24,823.00	97.31%	\$4,190,971.00	\$4,787,699.00	\$596,728.00	87.54%	12.46%
Fermi C#630223 Ross Rehab	\$508,744.00	\$453,893.00	-\$54,851.00	112.09%	\$1,093,520.00	\$1,209,274.00	\$115,754.00	90.43%	9.57%
LBNL LUX C#6973786	\$11,163.00	\$16,252.00	\$5,089.00	68.69%	\$102,854.00	\$126,173.00	\$23,319.00	81.52%	18.48%
LBNL Operations C#6994297	\$0.00	\$0.00	\$0.00	0.0%	\$3,293,406.00	\$3,192,294.00	-\$101,112.00	103.17%	-3.17%
LBNL LUX/Zeplin C#7255146	\$21,410.00	\$20,840.00	-\$570.00	102.74%	\$732,159.00	\$730,210.00	-\$1,949.00	100.27%	-0.27%
LBNL Ross Rehab C#7262800	\$0.00	\$0.00	\$0.00	0.0%	\$2,474,091.00	\$2,695,166.00	\$221,075.00	91.80%	8.20%
LBNL kISMET Task#7289931	\$0.00	\$0.00	\$0.00	0.0%	\$51,075.00	\$72,863.00	\$21,788.00	70.10%	29.90%
MJD (Majorana) ORNL144149	\$1,886.00	\$2,500.00	\$614.00	75.44%	\$5,625.00	\$18,000.00	\$12,375.00	31.25%	68.75%
RESPEC C#02703A	\$1,496.00	\$4,162.00	\$2,666.00	35.94%	\$87,356.00	\$103,324.00	\$15,968.00	84.55%	15.45%
Northwestern Univ. NASA981568	\$0.00	\$200.00	\$200.00	0.0%	\$112.00	\$1,600.00	\$1,488.00	7.00%	93.00%
BHSU-UGCampus Gen.Serv.	\$0.00	\$200.00	\$200.00	0.0%	\$0.00	\$1,600.00	\$1,600.00	0.00%	100.00%
Sanf.Sci.Ed.Center - GOED Funded	\$39,396.00	\$37,500.00	-\$1,896.00	105.06%	\$302,325.00	\$300,000.00	-\$2,325.00	100.78%	-0.77%
SDSM&Tech CASPAR Gen.Serv.	\$1,446.00	\$2,666.00	\$1,220.00	54.24%	\$8,049.00	\$16,038.00	\$7,989.00	50.19%	0.00%
* Xilinx, Inc. P.O.#732495	\$253.00	\$240.00	-\$13.00	105.42%	\$1,672.00	\$2,040.00	\$368.00	81.96%	18.04%
Subtotal	\$1,649,727.00	\$1,634,714.00	-\$15,013.00	100.92%	\$14,810,402.00	\$15,910,224.00	\$1,099,822.00	93.09%	6.91%
Indirect Expenses									
Indirect Charges Personnel	\$120,245.00	\$120,966.00	\$721.00	99.40%	\$1,010,370.00	\$1,009,489.00	-\$881.00	100.09%	-0.09%
Indirect Charges Other	\$284,020.00	\$257,052.00	-\$26,968.00	110.49%	\$3,119,794.00	\$2,497,077.00	-\$622,717.00	124.94%	-24.94%
Subtotal	\$404,265.00	\$378,018.00	-\$26,247.00	106.94%	\$4,130,164.00	\$3,506,566.00	-\$623,598.00	117.78%	-17.78%
Totals	\$2,095,756.00	\$2,058,705.00	-\$37,051.00	101.8%	\$19,305,071.00	\$19,794,792.00	\$489,721.00	97.53%	2.47%

\* Private Corporation (Commercial Group)

SDSTA CAPEX Budget Summary FY16/17  
Actual vs Budget  
February 2017 & YTD

Budget Area	FY2017 Monthly				FY2017 YTD				% Remaining
	Actual Month	Budget	\$ Over/Under Budget	% of Budget	Actual YTD	Budget	\$ Over/Under Budget	% of Budget	
									100.00%
Operational CAPEX	\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%	\$ 3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%
TOTAL CAPEX	\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%	\$ 3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%

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

Project #	Project Description	Feb. 2017	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ -	\$ -	\$ -	0.00%
CAP2014-05	CASPAR Experiment Development	\$ -	\$ -	\$ -	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 265,142.68	\$ 124,056.00	\$ (141,086.68)	213.73%
CAP2016-03	LZ Xenon Gas	\$ 425.52	\$ 417.00	\$ (8.52)	102.04%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ -	\$ -	\$ -	0.00%
CAP2017-01	Ellison Option	\$ 759.00	\$ -	\$ (759.00)	100.00%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
Monthly Totals		\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%

SD Science & Technology Authority  
Operational CAPEX Budget  
YTD FY2017 Actual vs Budget

Project #	Project Description	February 2017 YTD	FY2017 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 5,726.44	\$ 36,623.00	\$ 30,896.56	15.64%	84.36%
CAP2014-05	CASPAR Experiment Development	\$ 40,447.98	\$ 161,525.00	\$ 121,077.02	25.04%	74.96%
CAP2016-02	LZ Surface Facility Upgrades	\$ 975,480.45	\$ 1,086,099.00	\$ 110,618.55	89.82%	10.18%
CAP2016-03	LZ Xenon Gas	\$ 2,087,120.96	\$ 4,670,064.00	\$ 2,582,943.04	44.69%	55.31%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ 54,138.62	\$ 55,472.00	\$ 1,333.38	97.60%	2.40%
CAP2017-01	Ellison Option	\$ 759.00	\$ 555,000.00	\$ 554,241.00	0.14%	99.86%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 27,956.75	\$ 285,312.00	\$ 257,355.25	9.80%	90.20%
	Totals	\$3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%

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

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The Executive Director's Report includes the following:

- 10A. SDSTA Quarterly Update—February monthly report attached (financial summaries are also located under Item 9 Financial Report).
- 10B. Science Update (presentation)
- 10C. Underground Access Update (presentation)

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**Recommended Action:**

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

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# February Monthly Report

*Submitted by Mike Headley*

*SDSTA Executive Director*

*Sanford Underground Research Facility Laboratory Director*

*March 9, 2017*



## **Science**

- Dates are set for the bi-annual Conference on Science at SURF to be held May 13-15 at the South Dakota School of Mines & Technology (SDSM&T) followed by a workshop on low-background counting May 15-16 (underground tours also being coordinated):  
<https://meetings.undergroundphysics.org/indico/conferenceDisplay.py?ovw=True&confId=1>.
- Oxygen Deficiency Hazard (ODH) signage was reviewed at various laboratories, particularly related to areas that LUX has decommissioned.
- Regular monthly evacuation scenario for both 4850L campuses focused on smoke in the Yates Shaft.
- Facility highlights include scheduled annual inspections at both the Davis and Ross Campuses for laboratory alarm and fire suppression systems.
- Interruptions: Significant amount of water leaked from a dewatering pipe located in the West Lab Access Drift, but no water made it to any of the laboratory areas. Cleanup lasted about four days, during which time the emergency egress route was temporarily diverted to the East and South Drifts. This pipe will be removed and replaced near term by SURF operations staff.

## **Large Underground Xenon—LUX**

- Liquid scintillator screening activities inside the water shielding tank were completed in mid-February. All liquid scintillator as well as hardware associated with the testing has been shipped offsite.
- The process for emptying the Davis Cavern water tank started late February, with the tank completely empty by the end of the month. As was done during the initial water fill (which started in October 2012) the emptying process was monitored locally. After the tank was essentially emptied, a leak developed in the discharge pipe that was easily managed. SDSTA engineers are evaluating the failure as well as recommendations for a permanent repair.
- Final stages of LUX decommissioning (including removing the detector stand and muon veto PMTs) will begin in March. Mothballing of the water purification system may wait until April.
- Disassembly of the LUX detector that began in early February at a surface facility was completed in a few weeks, ahead of schedule due in large part to careful planning by onsite personnel. Inspections were completed and various components were recovered, such as the PMTs that will be re-used with the LZ detector. Some items (including a portion of the PMTs as well as some of the internal copper pieces) are being assayed at BHUC.
- LUX crew: Average of six people combining for 723 hours during the month.

## **MAJORANA DEMONSTRATOR—MJD**

- Shield construction resumed in February, with good progress on outer poly panel installation through the month. Also, improvements to various seals, adjustments to the purge system as well as re-positioning of Module 2 calibration system and heat exchangers. Confirmed functionality of infrared cameras within shielding. Shield construction expected to be complete in March.
- Electronics work including muon veto system troubleshooting (NIM crate failure and replacement, cable strain relief, etc), heat exchanger settings fine tuning, continuing investigations of occasional noise/instabilities and minor data acquisition system work.
- Decommissioning activities continue at the Ross Campus Electroforming Laboratory. Fire suppression system water supply was suspended to support other activities (cleanroom fire alarm works).
- Discussions continue regarding requirements for tonne-scale Germanium (Ge)-based double-beta decay project.

- MJD crew: Average of four people combining for 598 hours. Onsite effort continues to be low during the transition to operations. The project will have a Department of Energy (DOE) Critical Decision-4 (CD-4) by the end of March.

## **Low-Background Counting**

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

- Additional troubleshooting for components to support automation of liquid nitrogen (LN) systems.

### **BHUC Physics Users:**

- Assays have started on second batch of 18 LZ PMTs. Counting continued on other LZ materials such as stainless steel samples (in addition to LUX items mentioned above).
- Authorization issued for initial installation of LBNL dual-crystal system. Lead crates (from UCSB inventory used in Soudan Underground Lab) transported underground from surface storage, shield base established to allow initial characterization tests to be performed in March. Full shield cannot be constructed until second detector arrives (no firm schedule yet) and still need design for shield access.
- No significant progress on University of South Dakota (USD)/Alabama low-background detector, need additional LN piping to support installation outside cleanroom.

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

- Completed installation and performed initial testing of beam profile monitoring. Tested connections between control system and components as well as between accelerator and interlock system.
- Authorization issued for non-beam ion source commissioning, which was completed in February with University of Notre Dame personnel and assistance from SDSTA electricians. Commissioning included the successful generation of plasma and tests of the accelerator belt.
- Safety Readiness Review Committee pre-beam walk-through inspection set for March 30; agenda has been finalized and a list of documents for the review is being evaluated by the committee.

## **LUX-ZEPLIN—LZ**

- ESAAB approval of CD-3 on February 9.
- Surface infrastructure work continues on (or slightly ahead of) schedule.
- Pre-fabricated parts for new ultra-cleanroom began to arrive at SURF, vendor expected onsite in early March to start installation.
- Packing for shipping reduced-radon air system from Czech Republic nearing completion.
- Iterating on agenda and list of documents for upcoming Safety Readiness Review April 26-27 in Lead.

## **Other Current Research Activities**

**Physics:** No update on groups that expressed recent interest, including antineutrino R&D and blast monitoring.

### **Geology:**

- SIGMA-V: Collaboration kick-off meeting at LBNL in early March. Coordination calls address specific topics (e.g., water availability and chemistry) and site-selection trip still expected in next 1-2 months.
- Rock Melt: Heating equipment was installed in the first of five drill holes in early February. Noise generated from the heater power source disrupted constant temperature monitoring, but the group was still able to confirm that the heater is able to reach approximately 1000°C, sufficient for melting.
- GEOX™: Adjustments made to 2 of the air-flow monitors on the 4850L (including replacing a datalogger). Additional instruments purchased and will be deployed at locations such as the 4100L.

- Video Monitoring: Proposal for monitoring underground hazards in review by SDSTA personnel.

#### **Biology:**

- BHSU Biodiversity: One trip in February to harvest biofilms from the 4850L for classroom study.
- NASA Astrobiology Institute: Group visited 800L, 1700L/2000L, 4100L and 4850L site to sample water/gas and install new bioreactors, group is planning to leverage power/network at former DUGL experiment sites on 2000L and 4850L.

#### **Engineering:**

- Xilinx: SDSTA personnel assisted with troubleshooting error rate testing equipment on the 4850L.

### **Underground Access**

#### **Ross Shaft**

Ross Shaft steel installation continued with eight sets (269-276) completed. Various Underground Maintenance Crew (UMC) loads were lowered to the 2000L along with the usual maintenance and quality check activities. Work completed refurbishing the 4400L station. Crews were involved with supporting pump room work on various levels. The Ross crews also continued to support the Rock Melt experiment on the 1550L and 1700L with no interruption to schedule.

#### **Yates Shaft**

A total of 112 loads were handled through the shaft in February. Top Down Maintenance (TDM) corrected 151 conditions for the month. Refurbishment activities are taking place just below the 1700L in the cage compartments. Work commenced to improve block building outside of the headframe to house the Yates compressor. Crews also supported UMC on Annual Level Inspections (ALIs).

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

The UMC installed ground support using the Fletcher bolter along the North side of the 4850L West Lab Access Drift, working toward the Ross Shaft direction. Ground support installation in the East Lab Access Drift on the 4850L continues to work toward the Yates Shaft from the No. 4 Winze Wye direction. The UMC also assisted with the Rock Melt drilling project on the 1550L/1700L, and bolting along the 1700L travel ways. Work continued on the 2000L to maintain the water inflow program before higher spring inflows.

### **Facility Infrastructure**

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

The Facility Infrastructure team monitored and assisted with new equipment installation. Residue acid from copper cleaning was transported to the surface. Quarterly air handling equipment and fire alarm preventive maintenance activities continue with vendors. The crews assisted with LUX decommissioning and CASPAR commissioning.

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

The SDSTA completed all seven (7) day, thirty (30) day, and annual (360) day preventative maintenance activities. Boart drill and jackleg repairs continue. Yates motor generator set diagnosis is finding a small spike in the DC amps on one of the ore hoist generators. Recycling efforts continue as well as snow removal and winter activities.

#### **Dewatering**

Ross Shaft pump repairs continue replacing degrading and leaking portions of the column. The dewatering pump bearings on the 1250L are being closely monitored due to concerns of accelerated bearing degradation. Pump replacement on the 2450L has been completed and monitoring continues. The sump pump replacement in the Yates Shaft has been completed. Preventative maintenance on pumps and pumping apparatus has been performed.

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

At the end of February, the water level in the underground pool was at 5,660 feet. The net drop in water level for the month was six feet. Near term plans are to try to increase the average pump rate to 1250 gallons per minute from the underground. Modifications to the control system have been made to automatically place the WWTP in a safe state during a power loss or an upset condition and are being tested with positive results. The WWTP has not discharged any water to the sanitary sewer for over 244 days. Instead, the water is being recycled through the WWTP. Piping modifications have been made to the No. 2 sump pump to allow the discharge water to pass directly through the Yardney filters resulting in a pretreatment process that eliminates one step in the process for that water.

## **Transportation and Mobile Equipment**

The team performed vehicle preventative maintenance actions and repairs to fleet and site vehicles. In addition, the team maintained underground locomotives, support equipment and continue to test and evaluate different bolter consumable parts on the machine. Maintenance on snow removal equipment continues.

## **Electrical and Cyber Infrastructure**

The team continues to support the Ross Shaft rehabilitation project with the relocation of power cables in the shaft as the new steel is installed. The team continues to work reviewing and modifying the underground communications infrastructure to ensure each level has voice over IP (VoIP) and FEMCO (i.e. twisted pair) phones at each underground facility level. Fiber optic cables are being extended to the pump room levels to allow for installation of new phones. Power and communication cables have been extended to the 1550L and the 1700L in the Ross Shaft in support of the Rock Melt experiment. Each of the two levels will have IP phone, Femco and Ethernet; wireless access points are complete. Fiber optic cable and terminations are being installed from the Yates Shaft to the Ross Shaft across the 1700L to add to the redundant fiber routes in the underground. Fiber optic cable and Femco line were installed in No. 6 Shaft from the 4550L to the 4850L and also extended to the 5000L to eliminate their location in the Ross Shaft. This was completed in anticipation of the upcoming shaft rehabilitation between those levels. Power and communications were maintained during the deep well replacement project.

## **Engineering**

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

Engineering Director Allan Stratman participated in the DOE Independent Progress Review briefing the Conventional Facilities (CF) Subcommittee on the Status of Planning for the Reliability and CD-3A Pre-Excavation projects. This was one of several presentations on CF. The committee report had no recommendations for the CF team which was great news.

As part of the ongoing development of those projects, detailing the skip and bail fabrication drawings have been completed and the Request for Proposal (RFP) process has started for an AE firm to perform a Finite Element Analysis on the design. Also, the Tramway Rehabilitation RFP is being finalized for issue in March.

Several members of the Engineering staff were involved in supporting the ongoing pipe conveyor procurement coordinating a site visit to the tramway, and reviewing and receiving presentations as part of the selection board process for the Contract Manager/General Contractor CM/GC contract.

In regard to the Ross Shaft Rehabilitation project, the AE has now provided the 100% deliverable on the 4850L brow modifications to Sets 292 to 296, which is a significant milestone in the design.

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

LZ Piping and Instrumentation Diagram (P&ID) drawings were updated. Also, instrument lists were provided to Fermilab as part of an effort to update the ODH Analysis to enable completion prior to the April 26-27 LZ Safety Readiness Review at Sanford Lab.

Both the LZ Project Director and Chief Engineer were on site in February as planning ramps up for installation and integration; key elements for the success of the project.

An error was discovered in the radon reduction system (RRS) airline that moves air from the RRS building to

the cleanroom. It was determined that an error by the AE resulted in an undersized pipe being installed. The AE has agreed to fund the corrective action and it will not effect the overall project schedule.

In order to document conditions and status of construction as the cleanroom and RRS equipment is brought on site and installed, preliminary walkthrough inspections were performed to document conditions and ensure coordination across multiple equipment and construction contractor deliverables.

Equipment is being received for the new cleanroom which will be installed at the newly renovated Surface Lab. Installation is planned to begin in mid-March.

## **LUX**

The detector move from the Yates Headframe to the refurbished Motor Repair Shop was coordinated and disassembly of the TPC was supported.

## **SURF Infrastructure**

A revised, long term strategy for the replacement of the underground dewatering system pumps and rehabilitation of the pumping levels is being developed. This would include all new pumps, piping, logic controls and spare parts at the 5000L, 3650L, 2600L and 1250L. This work is planned to be done in stages, spread out over a longer period of time as funding is secured.

Updated information is being obtained from the SDSTA pump leasing vendor regarding various scenarios for the deep well pump system. The lease expires this year and requires evaluation of options in order to plan for a seamless transition.

## **Environment, Safety and Health**

### **Environmental Communication**

The following agencies were contacted: The South Dakota Department of Environment and Natural Resources (DENR) regarding the treated sanitary waste water discharge to the underground pool and the Environmental Protection Agency regarding the status of the Underground Injection Control Permit for the proposed sanitary waste water treatment plants' (WWTP) discharge.

### **Environmental Compliance**

**Water**—Waste Water Discharge Summary through March 1, 2017:

- *Total water discharged through outfall 001 since June 5, 2008: 5,806,701,767 gallons*
- *Total Underground water treated since June 5, 2008: 3,419,193,707 gallons*
- *Total Tailing water treated since June 5, 2008: 2,551,330,189 gallons*
- *Total water discharged to sewer since June 5, 2008: 105,071,348 gallons*

The January Discharge Monitoring Report (DMR) was prepared for the month of February. There were no violations. The DMR was electronically filed utilizing the NetDMR reporting tool.

There continues to be no communication concerning the draft National Pollution Discharge Elimination System (NPDES) from the DENR.

The South Dakota DENR issued a letter stating that a ground water discharge permit will not be necessary for the underground sanitary WWTPs scheduled to be constructed this summer. Sanford Laboratory continues to await a construction permit for this project.

WWTP NPDES compliance training was provided to WWTP operators.

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

**Solid Waste**—Hazardous waste was collected and managed from the Large Underground Xenon (LUX) experiment decommissioning at both the Surface Lab and the 4850L Davis Campus.

The Tier 2 report was completed and submitted to the South Dakota DENR.



The site parts washers located at the Ross and Yates Maintenance shops were serviced by Safety-Kleen.

The Ellison tract buildings' roofs were sampled for asbestos. The sampling indicated that asbestos roofing materials were present on two roofs of the Ellison Building complex: The Construction/Drill Bit Repair Shop and the Rope House.

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

The LUX water tank drain plan was reviewed and approved.

#### **Environmental Support Tasks**

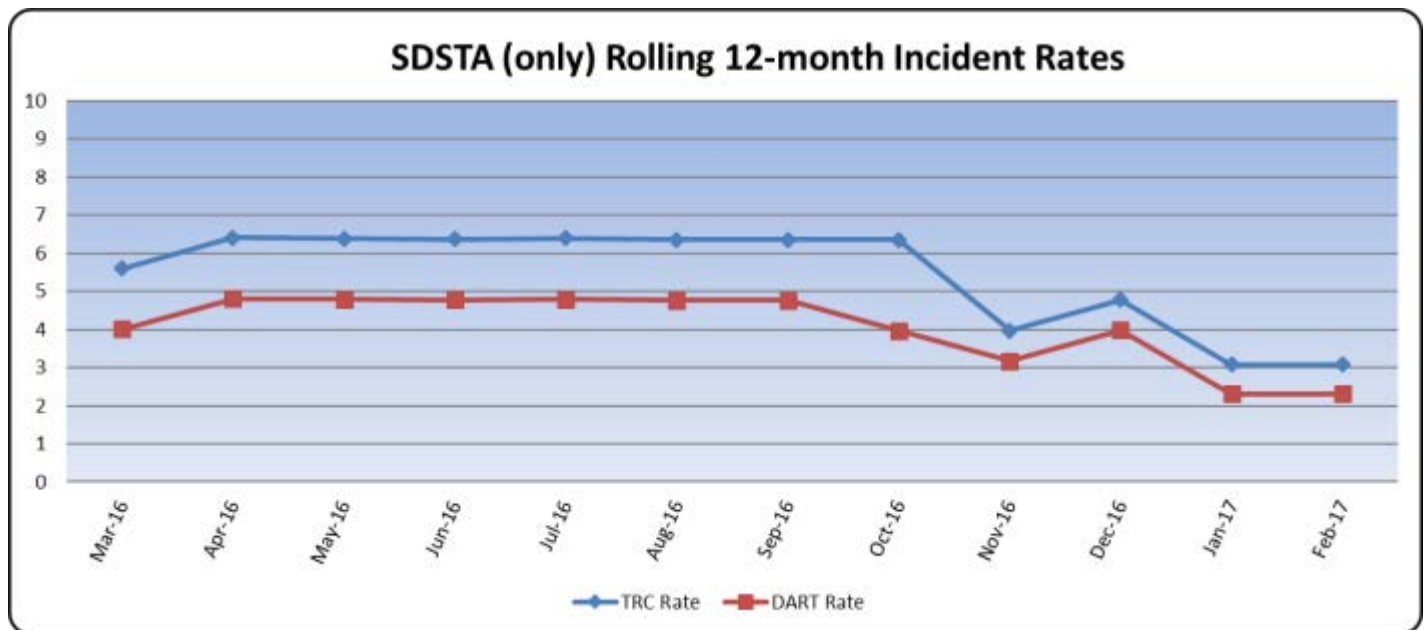
The Ellison Asbestos Abatement Scope of Work was prepared for asbestos removal work this summer.

The secondary access road to the Ross Hoist building was closed off and signed to prevent unauthorized travel on this road to prevent collision with the Ross Hoist ropes.

The Machine Shop Phase 1 Environmental Site Assessment and Sampling Plan were reviewed.

The WWTP Quality Assurance Plan was updated to reflect changing sampling procedures to coincide with the operators' new shift schedule.

#### **Health and Safety Summary**



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

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

#### **February 2017 DARTS/TRC:**

- No events to report

#### **February 2017 First Aid Cases:**

- No events to report

#### **February 2017 Category 1 or 2 Events:**

- No events to report

#### **February 2017 Category 3 Events:**

- No events to report



## **February 2017 Items of Interest:**

1. Conducted monthly Annual Refresher Training for Operations Personnel
2. Collected quarterly Radiation Safety swipes and sent to vendor for analysis
3. Swapped out all oxygen and compressed air tanks at the 4850L Refuge Chamber
4. Completed annual fire extinguisher inspection
5. Performed sound level survey and baseline exposure assessment of Liquid Nitrogen filling job task
6. Developed a Tool Box Safety Hazard Survey for the functional groups to fill out to help develop single-page topic briefings
7. Dispersed new Sanford Lab orientation Surface and Underground training slide deck
8. Safety Committee voted and awarded the January Safety Performance Program winners
9. Safety Sweep conducted at the WWTP by Safety Committee Representatives and SDSTA personnel
10. Conducted monthly Powder & Cap inventory at the 4850L
11. Updated the Confined Space Policy
12. Flow and pressure tested onsite fire hydrants

## **Education and Outreach (E&O)**

The Sanford Lab Education and Outreach Team was awarded a *Friend of Science* award by the South Dakota Science Teachers Association at the annual conference in Huron February 3-4. The citation reads “Your dedication and service to and for SD Science Teachers has been and continues to be one of the amazing resources to South Dakota.”

### **Cultural Activities**

A pre-proposal was submitted for the 2017 NSF INCLUDES (Inclusion across the Nation of Communities of Learners of Underepresented Discoverers of Engineering and Science) solicitation. The Oglala Lakota School District is a partner on the proposal, which would establish summer science camps in Pine Ridge Reservation schools.

### **K-12 Education and Outreach**

**Curriculum units.** Table 1 lists the schools, grades and number of students who completed units in February.

**Table 1. Curriculum Units**

Unit	School	City	Grade or Course (high school)	Total # of students
May the Force Be With You	Hayti	Hamlin	4	66
There and Back Again	Sturgis Williams	Sturgis	5	9
‘We are Made of Starstuff’	Viborg	Viborg	Chemistry	171
The Search for Dark Matter	Parkston	Parkston	7-8	15
Perplexing Puddles	Waverly	Waverly	Biology	24
	<b>5 schools</b>			<b>285 students</b>

Presentations were given at the South Dakota Science Teachers Conference about the latest curriculum units. Science Education Specialist Becky Bundy presented on *Waterworks* and Science Education Specialist Kari Web presented on *There and Back Again*. A total of 12 teachers attended. Deputy Director of Education and Outreach Peggy Norris presented a workshop at the annual Winter Meeting of the American Association of Physics Teachers in Atlanta, GA on resources related to teaching about dark matter, primarily *The Search for Dark Matter* curriculum unit; 13 educators attended.

‘*We are Made of Starstuff*’ has been submitted to a national review board to assess its alignment and overall quality with respect to the Next Generation Science Standards. This is an initial step towards national dissemination of the units.

**Classroom presentations.** Classroom presentations for February are given in Table 2. Cultural and Diversity Coordinator KC Russell participated in the E&O presentations at Crow Creek and Tiospa Zina Tribal Schools, which were coordinated through the Gaining Early Awareness and Readiness for Undergraduates Program (GEARUP) program.

**Field trips to Sanford Lab.** Fifty-nine Lead-Deadwood fourth graders visited Sanford Lab on February 10. Students toured the Hoist Room and provided a workshop on *Indirect Evidence*.

**Other K-12 Activities.** Science Support Specialist Mark Hanhardt visited his alma mater, Sturgis Brown High School to talk to four classes about Sanford Lab.

Becky Bundy and Kari Webb presented a session for a Spearfish School District in-service day on designing lessons for place-based learning and the integrated teaching of subjects (English/Math/Science/Social Studies), utilizing Sanford Lab curriculum resources as an example.

### Undergraduate Activities

Interviews took place the last two weeks of February for the Sanford Lab summer intern program, and final selections are underway. Interviews to select the final Davis-Bahcall Scholars will take place in early March.

### Other Activities

The E&O group had a meeting with RESPEC Engineering and SDSM&T faculty associated with the Deep Borehole Field Test project. The RESPEC/SDSM&T team is putting together a proposal for outreach to schools and communities around the site of the project in Haaken County.

**Table 2. Classroom or Assembly Presentations**

School/City	Presenter	Presentation	Grade(s)	# of presentations	Total # of students
Marty Indian School / Marty	RA	Dark Matter	6-7	2	35
Crow Creek Tribal / Stephan	PN	Dark Matter	6-9	2	100
Crow Creek Tribal / Stephan	PN	Borehole	10-12	1	75
Tiospa Zina Tribal / Sisseton	PN	Dark Matter	6	1	40
Tiospa Zina Tribal / Sisseton	PN	Careers	7-8	2	69
Waverly Schools / Waverly	PN	Dark Matter	6-7	2	30
Waverly Schools / Waverly	PN	Borehole	10-12	1	20
Waverly Schools / Waverly	PN	Accelerators	4-5	2	29
Waverly Schools / Waverly	PN	Day in the Life	1-3	2	50
East Middle / Rapid City	BB	Careers	8	1	17
<b>5 schools</b>				<b>16 programs</b>	<b>465 students</b>

JMc = John McEnelly; DT = Deb Thorp

**Table 3. Total Impact**

Group	Students					Educators			Community		
	K-5	6-8	9-12	Undergrad	Graduate	K-12 Educator	Univ. Faculty/Staff	Informal	Parents	Sanford Lab Staff	General Public
<b>FIELD TRIPS (o schools)</b>											
<b>Lead-Deadwood Elementary</b>	59	0	0	0	0	3	0	0	0	0	0
<b>Subtotal</b>	59	0	0	0	0	3	0	0	0	0	0
<b>CURRICULUM UNITS COMPLETED (from Table 1)</b>											
<b>Subtotal</b>	75	15	195	0	0	5	0	0	0	0	0
<b>ASSEMBLY PROGRAMS COMPLETED (from Table 2)</b>											

<b>Subtotal</b>	107	98	299	0	0	10	0	0	0	0	0
<b>OTHER</b>											
<b>Sturgis Brown Visit</b>	0	0	116	0	0	1	0	0	0	0	0
<b>Science Teachers Assn</b>	0	0	0	0	0	12	0	0	0	0	0
<b>Spearfish In-service</b>	0	0	0	0	0	7	0	0	0	0	0
<b>AAPT Workshop</b>	0	0	0	0	0	10	3	0	0	0	0
<b>Subtotal</b>	0	0	116	0	0	30	0	0	0	0	0
<b>Grand Total</b>	<b>241</b>	<b>113</b>	<b>610</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total: 1,015 students, educators and members of the general public</b>											

## **Communications**

Communications Director Connie Walter and Creative Services Developer Matt are moving forward with the new website, creating new content and updating existing content. Illustrations are being worked on for different pages. Weekly teleconference meetings continue with the web developer Sandbox Studios.

Members of the Neutrino Day planning committing are applying for a grant from the Vucurevich Foundation.

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

- Executive Director Mike Headley and Science Director Jaret Heise gave a presentation, Impacts of Big Science, at Dakota State University in Madison as well as Augustana College and the Optimist Club in Sioux Falls; additional presentations will be given at Northern State University in Aberdeen and University of South Dakota in March.
- Underground Access Director Bryce Pietzyk gave the Deep Talks presentation for February at the Visitor Center. Pi Day is March 14 with Algorithmic artist Jill Schad from Lead.

## **Video, Web, Graphics**

- Digital signs are active throughout the facility; monthly training continues.
- Albums in the Sanford Lab Photo Gallery may be viewed at: <http://pics.sanfordlab.org/f216003594>
- Stories continue to be developed for Deep Thoughts; update the website; general web maintenance is being performed; and photographs and information continue to be provided to the media, science collaborations and educational institutions, and other laboratory departments, as requested.

The February Communications Photos are included as Appendix A.

## **News coverage**

- February 27: [How to Use Dark Matter Detectors to Catch a Uranium Thief](#) by Sophia Chen, Wired
- February 22: [Sanford lab offers opportunities to DSU students](#) by Staff Writers, Dakota State Alumni News
- February 18: [Search for dark matter enters new phase at Sanford Lab](#) by Al Van Zee, Black Hills Pioneer
- February 09: [Is dark matter made of black holes?](#) by Adrian Cho, Science AAAS
- February 08: [When a nearby star goes supernova, scientists will be ready](#) by Emily Conover, Science News

## **Contracts Status**

### **SURF Services—Fermi Research Alliance (FRA):**

SDSTA submitted a proposal to Fermilab for the five-year subcontract period July 1, 2017-June 30, 2022. It is currently under review.

### **Long Baseline Neutrino Facility (LBNF)—Fermilab:**

Excavation Design: A new purchase order (PO) was issued to enable Arup to provide bid support for the Pipe Conveyor project.

Professional Staff Services: A PO revision was issued to add funds for February.

Ross Shaft Rehabilitation: Supplemental Agreement No. 2 was issued to add \$645,000 in incremental funding.

Tramway Rehabilitation: A Request for Information (RFI) was issued to determine contractors' capacity for completing the entire scope of work associated with this project, including ground support and shotcrete installation. Responses indicate that this project will generate substantial interest and competition, and a Request for Proposal (RFP) is scheduled to post March 3. The Tramway Rehabilitation effort will be supported by a new master agreement and task order from Fermilab.

**SDSTA:** An RFP was issued for Access Control/Learning Management System, with proposals due March 10.

#### **February Contract Summary:**

	<b>Contractor</b>	<b>Type</b>	<b>Contract Description</b>	<b>Status</b>
<b>2016-33</b>	Insulation Enterprises	CO#1	Pipe Insulation Project, Davis Campus	Added funds
<b>2017-03</b>	Anderson Environmental	Contract	Asbestos Remediation Projects	New
<b>2017-02</b>	Eaton Construction	Contract	Water Inflow Pipe Fusion	New
<b>2016-27</b>	Sandbox Studio	CO#1	Graphic and Drupal Design and Development Team	Extended Contract
<b>2016-32</b>	TSP	CO#1	Design Support, Ross & Yates Hoist Room Buildings Roof Drain Piping	Added scope
<b>2017-04</b>	TBD	RFP	Access Control / Learning Management System	Proposals due March 10
<b>2016-18</b>	Dean Kurtz Construction	CO#5	LZ Surface Infrastructure Improvements	Credit for fire extinguishers
<b>2016-18</b>	Dean Kurtz Construction	CO#6	LZ Surface Infrastructure Improvements	Additional scope, funds
<b>2016-18</b>	Dean Kurtz Construction	CO#7	LZ Surface Infrastructure Improvements	Additional scope, funds
<b>2016-18</b>	Dean Kurtz Construction	CO#8	LZ Surface Infrastructure Improvements	Additional scope, funds
<b>2017-06</b>	TBD	RFP	Custodial Services	to post March
<b>2017-05</b>	TBD	RFP	Tramway Rehabilitation	to post March 3
<b>2017-07</b>	American Engineering Testing	Contract	Sampling	New

**Purchase Orders (POs):** 132 POs were issued in February totaling **\$339,223.85**.

**Warehouse Inventory:** Warehouse inventory on February 28, 2017 totaled **\$204,843.36**.

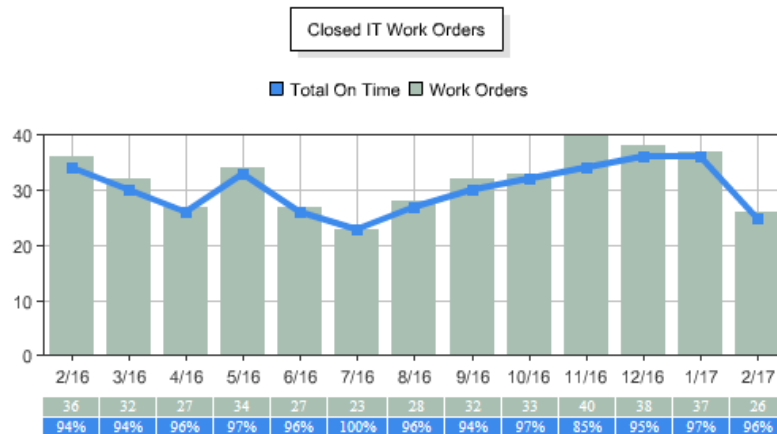
### **Information Technology**

#### **Projects**

- New firewalls have been received; setup and testing have begun.
- Two new backup servers were received and setup with a migration plan to complete next month.
- Overhaul of email distribution lists was completed to align with the current SDSTA organizational chart.
- A new DocuShare science user's portal has been designed and launched to automate new account requests, visitor logs and training needs.
- iFix server rebuild was completed; PCL software testing has begun to help enhance security.
- One new IT blog posted this month.

## Daily Activities

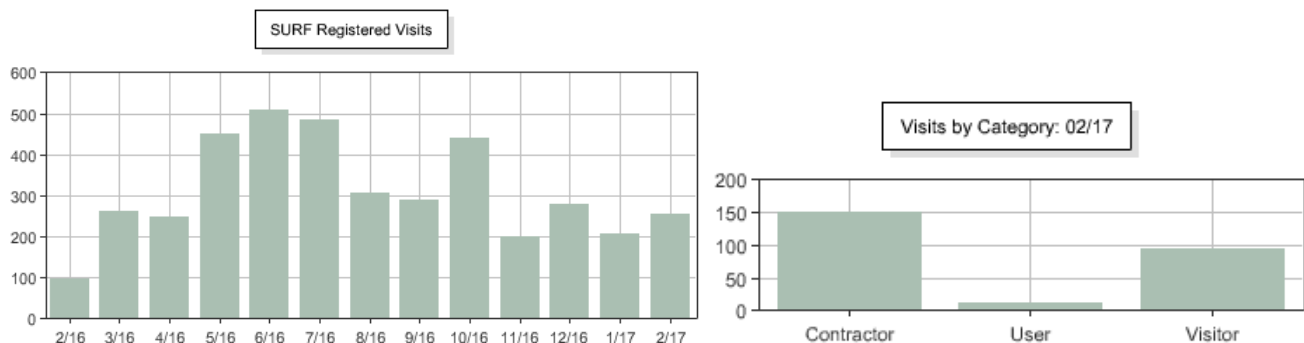
IT continues to monitor and review wireless and general network activity and counts, network hardware readiness, VPN Remote Access logs, and establishes new Virtual Private Network (VPN) and Docushare accounts for individuals and user groups, as requested.



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

## February Events

In February, a total of 257 Visitors, Contractors and Users visited the lab; an increase of 50 people from last month.



The February Visitor Log Report was submitted electronically to the SD Fusion Center/Homeland Security utilizing the database reporting tool.

Logistical and administrative support were provided for the following:

- Feb 7: Office of Risk Management Meeting; LZ Engineering Coordination Review
- Feb 9 & 10: Annual Refresher Training
- Feb 9: Deep Talks (held at Visitor Center)
- Feb 15: Pipe Conveyor Pre-Bid Site Visit
- Feb 17: Annual Refresher Training
- Feb 24: SDSTA Board of Directors Special Telephonic Meeting
- Mar 3: BHSU Robotics Competition
- Mar 6-7: Open Enrollment Benefits Meeting for SDSTA full-time employees

Planning continues for upcoming meetings and events in 2017:

- Mar 13: General Safety Basic Class; LBNF Public Meeting (held at the Lead High School Auditorium)
- Mar 14: Cultural Advisory Committee Meeting
- Mar 16: SDSTA Board of Directors Meeting

- *Mar 22: Crosby Rigging Class*
- *Mar 29: Safety Committee Meeting*
- *Apr 25: LZ Underground Radon Reduction System Discussion*
- *Apr 26-27: LZ Safety Readiness Review*
- *May 4: Hazwoper Training*
- *Jul 6-9: Fermilab Physics Advisory Committee Meeting*
- *Jul 8: Neutrino Day*

The Sanford Lab Winter Social Party was held at The Lodge at Deadwood on February 24. A total of 159 staff, spouses and researchers attended and it was enjoyed by all.

Monthly Researcher hours were tracked and Science training records entered; monthly invoices were coded for the Finance Department; new badges were processed, monthly office supply order was received and sorted; main storage closet was cleaned and organized. Assisted Business Services Manager Sharon Hemmingson to make copies of the 5-year SURF Services proposals, place in binders, label and mail.

The following projects continue: Participation in the new website design discussions; Neutrino Day planning; and assistance with copyediting and updating content on the Sanford Laboratory website. Organization charts were updated and submitted with the SURF Services proposal.

February Monthly reports for Fermilab and SDSTA were compiled, edited and distributed. Draft Board Minutes for the Special Telephonic Board Meeting on February 24 were transcribed and reviewed by the chairperson and legal counsel. It has been placed in a binder in the reception area of the Administration Building and posted on our Sanford Lab website, as well as the Boards and Commissions portal. Also, Board materials for the upcoming March 16 meeting were assembled and distributed.

### **Finance and Human Resources**

Included in the Financial Report are the following:

- SDSTA SURF Services FY2017 SPA Curve as of February 2017 (included as Appendix B)
- SDSTA Staffing Plan by Funding Source as of February 2017 (included as Appendix C)
- Financial Summary (included as Appendix D)
  - Balance Sheet as of February 2017
  - Comprehensive Statement of Income February 2017
  - Comparative Balance Sheet – February 2017 vs. February 2016
  - Comparative Statement of Income – February 2017 vs. February 2016
  - Available Resources as of February 2017
  - Operating Budget Summary
  - CAPEX Budget Summary
  - February 2017 and YTD CAPEX Budget – actual vs. budget

### **SDSTA SURF Services FY2017 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 2017 along with information related to Funded-to-Date dollars, Scheduled dollars, Performed dollars and Actual dollars by month. This subcontract will be continued for support from October through June 2017 (tentatively) until an additional five-year contract can be negotiated with Fermilab. Actual dollars represent actual invoices for the months sent to Fermi Research Alliance LLC for reimbursement. For February, the invoices totaled \$1,117,724 which is lower than the anticipated reimbursements of \$1,148,704 by \$30,980. This underrun is immaterial. Cumulative expenses are at \$5,224,911 which is lower than the budgeted \$5,969,123 by \$744,212.

### **Balance Sheet Items**

Cash in Local Checking—Total on hand at February 28, 2017 was \$568,476; down from last month by \$1,062,505. Funds on hand were necessary to pay employee medical/life/vision insurance all 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 \$13,664,295. This balance has decreased from last month by \$688,251 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 \$2,674,393; up from last month by \$590,434. Included in the balance are open invoices to LBNL for \$51,026; representing invoices for the Large Underground Xenon (LUX) subcontract and LUX-ZEPLIN (LZ) engineering support. Additional open invoices include \$2,603,702 from Fermilab primarily from the SURF Services subcontract and the Ross Shaft Rehabilitation work. Additionally, there are open receivables of \$5,817 from small university subcontracts, Barrick/Homestake of \$13,277, and \$571 from Xilinx, Inc., the commercial organization that has established an experiment located near the 4850L Davis Campus. Fermilab receivables have increased due to transitioning the SURF Services contract and the Ross Shaft contract to their facility.

Unbilled A/R—Balance at \$543,240. Unbilled A/R represents items that have not been billed on various contracts. The payroll from pay end date February 24, 2017 (paid on March 3, 2017) was not invoiced in February on various contracts. This amount will be invoiced in March. February's balance has increased by \$28,123 for this reason.

Other A/R—Current balance of \$237,194. This balance represents any Interest Receivable and Miscellaneous Accounts Receivable. The balance increased by \$5,877 which includes the interest accrual for February as well as activity for noncontract receivables.

Inventory/Supplies—Balance at \$2,408,323 for fixed assets being stored but not in service. The balance has not changed from December.

Inventory Warehouse/Personal Protective Equipment (PPE)—Current balance of \$34,450. This balance represents the warehouse inventory that was purchased by SDSTA prior to federal funding. The balance has decreased from January by \$110 for inventory usage.

Other Current Assets—This listing on the balance sheet represents the balances of both prepaid insurance—\$353,764 and prepaid other—\$39,541. Total balance of \$393,305 is down from last month by \$75,289. This decrease represents the monthly insurance expense and the change in prepaid items for February.

Fixed Assets—Total of \$83,343,947 (net of depreciation through February 28, 2017). Fixed assets are unchanged for the month except for depreciation which results in a decrease of \$163,297.

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. Current balance has increased by 266,327 to \$3,334,448.

Capital Lease—This balance of \$268,135 represents the deep pump system capital lease. The balance has decreased \$15,305. The lease through AmWest, Inc. was renegotiated to include transference of property to SDSTA at the end of the lease term in January 2018. The rental payments are being directly charged to the Lawrence Berkeley National Laboratory (LBNL) federal subcontract. Per the subcontract, the pumping system will become the property of the federal government at the end of the lease period. The equipment will be fully expensed over the period of the lease at which time it will be removed (along with the lease liability) from the SDSTA's balance sheet.

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 Net Pension Asset is a restricted asset. Thus, the equity created would also be restricted (restricted for pension benefits). The balance shown as a noncurrent asset is \$6,287,854 created by fiscal year 2016 final entries.

Xenon Purchased—Balance of \$1,606,663 represents the value of xenon purchased for future use by experiments. This adjustment has been made as of October but is also reflected in our fiscal year 2016 audit compilation. The xenon inventory is considered a non-current asset. The balance has not changed from

December. This balance will increase at the end of fiscal year 2017 for all purchases during the current fiscal year. They are currently being held in Work in Process.

Total Assets—Total of \$115,364,722. This balance is down from last month by \$1,113,995; which represents the net activity as listed above.

Accounts Payable—Our Total Accounts Payable balance of \$1,128,779 at the end of the month compared to last month has decreased by \$2,028,873. This decrease is primarily represented by no longer owing for the two shipments of xenon from January.

Accrued Payroll Liabilities—Current balance of \$1,367,152 has increased by \$27,834 from last month. This represents the net change between earned vacation and vacation taken and other changes in other employee benefit-related liabilities. This increase includes the labor performed in February, but not paid until March.

Long Term Accrued Employee Benefit/Lease—This balance of \$268,135 denotes the liability associated with the capital lease for the deep pump system from AmWest, Inc. This balance has decreased by \$15,305 for the months' reduction in the lease amount owed.

Long Term Xenon Notes Payable—This designation represents \$2M of funding received from the South Dakota Community Foundation (SDCF) as well as an additional \$1M received in January from the South Dakota State University Foundation (SDSUF) and \$1M received in February from the University of South Dakota Foundation (USDF). The \$4,000,000 balance is designated for purchasing xenon for experiment use at Sanford Lab. Five shipments totaling 550,295 liters were received in November 2015, February 2016, July 2016 and January 2017.

Pension Deferred Inflows—This classification reflects the requirements of GASB No. 68 and No. 71, as discussed earlier. The balance of \$3,184,802 represents the net difference between projected and actual investment earnings on our pension plan with the South Dakota Retirement System.

Total Liabilities—Total Liabilities decreased by \$1,016,343 (from \$10,965,210 to \$9,948,867), which reflects the net activity listed above.

Total Equity—Decrease to \$105,415,855 from the previous month \$105,513,506.

Total Liabilities & Equity—Increase to \$115,364,722 from the previous month of \$116,478,717.

### **Statement of Income Items**

On the SDSTA's Statement of Income, the DOE Subcontracts are consolidated into one line item on the report. Included in this amount are various subcontracts from LBNL, Fermi National Accelerator Laboratory (FNAL), a private company—RESPEC, as well as a small contract for the MAJORANA project with the University of North Carolina. Total revenue for this fiscal year through February 2017 is \$17,954,608 (increase from January of \$2,000,355).

National Science Foundation (NSF)/National Aeronautics & Space Administration (NASA) Subcontracts—Total revenue for fiscal year 2017 from this particular funding is \$10,209. The balance represents revenue from small subawards through University of Minnesota and SDSM&T for CASPAR as well as Northwestern University from NASA. The balance has increased from January by \$1,770.

State Revenue—Year-to-date State Revenue equals \$12,000. This amount was received from the State to fund Davis Bahcall scholars work experience internships from this past summer.

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

Interest income recorded for the current fiscal year on State Funds is at \$93,528. 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 \$12,962,630 for the year. Indirect Costs including fringe benefits are at \$6,455,558. Costs are higher



than revenue by \$1,222,348. Other Income is at \$178,005 which represents miscellaneous income received from Xilinx and small amounts from Barrick. Net income through February is at \$136,186.

### **Comparative Balance Sheet**

Significant differences include Total in Local Checking which is lower by \$1,009,459. Total Cash with State Treasurer is lower by \$1,083,643 from this time last year as funds were expended over the 12-month period. Other notable differences exist for Billed A/R which has increased by \$669,784 due to increased activity with various contracts and for unpaid receivables when comparing the two time frames. Inventory—Warehouse which has decreased by \$334,472 for adjusting xenon to Other Assets. Total Fixed Assets have decreased by \$2,725,896 primarily due to recording the gifts of the Sanford Lab Homestake Visitor Center and the Sanford Science Education Center at BHSU. Work in Process has decreased from this time last year by \$994,199 represented by a decrease in activity in our CAPEX projects when comparing the two time frames. Investment Captive Insurance which was eliminated with FY2016 year-end results in another decrease of \$2,500,000 to Other Assets. Xenon Purchased has increased due to adjusting the xenon purchases from FY2016 to Other Assets. In summary, Total Assets have decreased by \$7,264,095. Total Other Liabilities have increased by \$636,499 primarily due to Xenon Notes that have increased for the \$2M receipt from the SDSUF loan and the USDF loan. Total Equity has decreased by \$7,890,053 from this time last year. In summary, Total Liabilities & Equity have decreased by \$7,264,095. Restricted and Unrestricted Funds as well as Investment in General Fixed Assets are all lower than this same time last year.

### **Comparative Profit/Loss**

Total Revenue for year-to-date February 2017 compared to year-to-date February 2016 has increased by \$1,284,885. This is primarily due to transitioning the Ross Rehabilitation from SDSTA and State funding to Federal funding. DOE subcontract revenue has increased by 24.68%. State Revenue is lower primarily because last year we had received the \$2M from GOED for xenon purchases for experiment use. Direct Costs and Indirect Costs for year-to-date February 2017 compared to this time last year show a combined increase of \$1,878,153 (10.7% increase), primarily due to the purchase of xenon for LBNL which was charged back on an existing contract, increase in supplies for the Ross Shaft Rehabilitation, and because Overhead has increased in FY2017. Overhead contains costs for the Yates Complex parking lot repairs as well as costs for the Yates Administration Building roof repairs. Other Income is lower for the comparative time periods primarily due to treating less of Homestake's water. Net Income/Loss for the comparative time periods shows a decrease of \$379,402 which reflects the net activity as listed above.

### **Available Resources**

This report reflects our available cash/accounts receivable after noting the restricted cash balances in the Indemnification and Mine Closure accounts, and funds held for Experiments—xenon purchase, experiment infrastructure upgrades and interest for investors. This report has been restructured to better reflect our available cash and (short term) accounts receivable as compared to our current liabilities including Accrued Payroll Liabilities. It is important to include receivables as many of the items in Accounts Payable are invoiced on our current federal contracts. \$2,674,400 is available after noting our current obligations. It is also important to note that our Accrued Payroll Liabilities include accrued vacation and sick pay. Therefore, the current report better reflects our available resources compared to current obligations.

### **Operating Budget Analysis**

This report is separated into three sections: SDSTA-funded activities, Federal & State funded activities and Indirect expenses that benefit various activities. Very few areas are over budget for the month and by immaterial amounts. Year-to-date almost all are under budget. Indirect Charges Other are over budget year-to-date primarily due to the parking lot repairs and the repairs to the Administration Building roof. Indirect funds collected in fiscal year 2016 were used for these projects. Thus, these projects have been budgeted. Total operating expenses are over budget for February 2017 by \$37,051. Most notably the Ross Shaft Rehabilitation is over budget by \$54,851 primarily due to receiving additional steel sets during the month than what was budgeted. Year-to-date figures are under budget by \$489,721.

## **Capital Expenditure Budget Analysis**

Our current capital expenditure projects have been condensed and are listed from CAP2014-01—CAP2017-02 with various breaks in the numbering sequence. Total project dollars have been reduced to \$6,850,095, which represents the approved budget from the June 2016 Board meeting. All projects with the exception of the LZ Surface & Facility Upgrades and LZ Xenon Gas Purchase are funded by the balance of Sanford Funds as directed by the Fifth and Sixth Amendments to the Homestake Gift Agreement and funding from private fund raising activities. Funding for the LZ Surface & Facility Upgrades and LZ Xenon Gas Purchase was secured from the GOED granting \$6,000,000 over three years. Additionally, loan documents have been executed for \$2,000,000 each from the South Dakota Community Foundation, the South Dakota State University Foundation, and the University of South Dakota Foundation for xenon purchases. In February 2017, we spent \$266,327 on our CAPEX projects which is higher than the budgeted \$124,473. Year-to-date, \$3,191,630 has been spent on these projects.

## **Human Resources**

There are currently 127 full time employees and 12 temporary staff, primarily Emergency Response Team members. Infrastructure Technician Curtis Jones will replace Max Voorhees who was terminated in January. Receptionist Brooke Anderson has been promoted to Administrative Assistant, however, the SDSTA Laboratory Receptionist position will not be backfilled at this time. Brooke Anderson and ESH Admin/Safety Coordinator Michelle Andresen will share front desk duties for the time being. Information Technology Support Technician Brian Jones has resigned effective March 24. The position will be backfilled.

## APPENDIX

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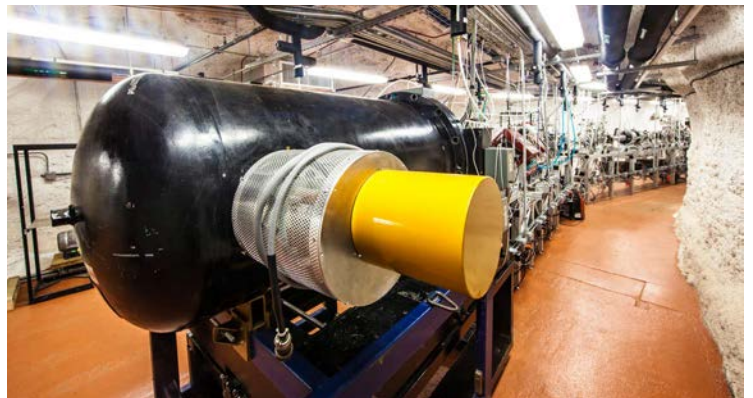


*Top: The water tank at the Davis Cavern once housed LUX. It now sits in an empty lab awaiting something bigger—LZ.*

*Center left: LZ will need to reduce the amount of radon in the xenon it uses. A new building is being constructed near the surface lab to house equipment for the task.*

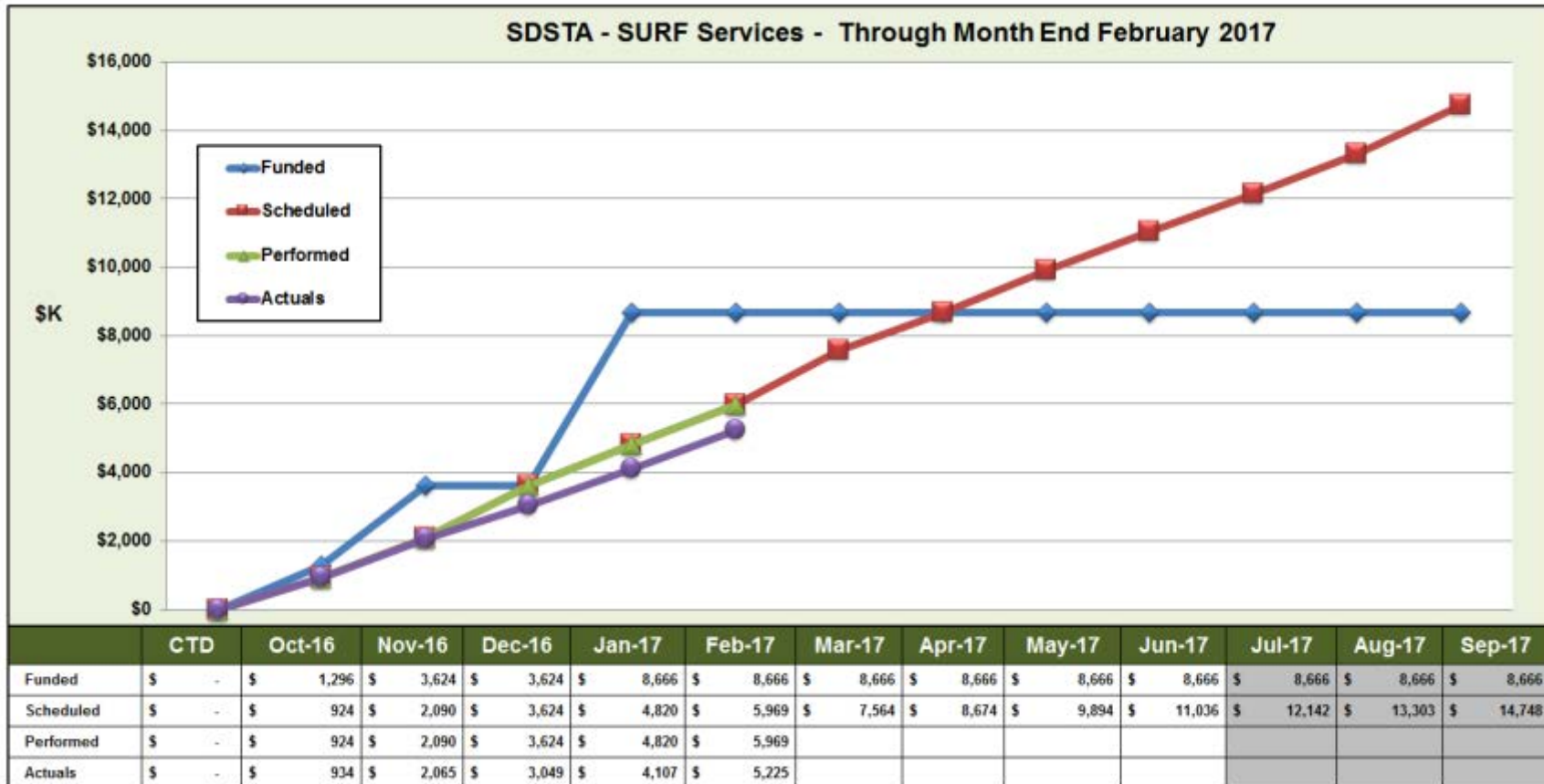
*Center right: LUX is dismantled piece by piece.*

*Bottom right: CASPAR continues to build the linear accelerator.*



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## Finance & HR Department Appendix B



**DOE SDSTA FY 2016 SPA Curve  
February 2017**

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## Finance & HR Department Appendix C

*FTE Report - All Fund Sources - FY17 - February 2017*

*Revised: March 7, 2017*

Source/WBS	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17
<b>SDSTA</b>	<b>1.30</b>	<b>1.30</b>	<b>1.30</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>	<b>0.70</b>
Administration	1.30	1.30	1.30	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
<b>DOE SURF SERVICES</b>	<b>77.95</b>	<b>77.95</b>	<b>76.95</b>	<b>77.90</b>	<b>77.90</b>	<b>77.90</b>	<b>77.70</b>	<b>77.70</b>	<b>78.00</b>	<b>77.50</b>	<b>77.50</b>	<b>77.50</b>
Administration	0.70	0.70	0.70	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
EHS	11.75	11.75	11.75	11.75	11.75	11.75	11.75	11.75	11.75	11.75	11.75	11.75
Engineering	4.10	4.10	4.10	4.10	4.10	4.10	3.90	3.90	4.20	3.70	3.70	3.70
Science	6.15	6.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15
Operations												
Management	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Ross Shaft	0.00	0.00	0.00	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Yates Shaft	16.00	16.00	16.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Hoist Operations	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Hoist Maintenance	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Ventilation	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Hazard Mitigation	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Water Treatment	5.40	5.40	5.40	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15
Dewatering	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Electrical Power Distribution	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
Cyberinfrastructure	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Buildings and Grounds	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Equipment Maintenance	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Davis Campus	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
<b>ROSS SHAFT (DOE)</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>	<b>27.90</b>
<b>LZ</b>	<b>2.15</b>	<b>2.15</b>	<b>2.15</b>	<b>2.15</b>	<b>2.15</b>	<b>2.25</b>	<b>2.25</b>	<b>2.25</b>	<b>3.35</b>	<b>3.85</b>	<b>3.85</b>	<b>3.85</b>
<b>LBNF / DUNE</b>	<b>1.60</b>	<b>1.60</b>	<b>1.60</b>	<b>1.60</b>	<b>1.60</b>	<b>1.60</b>	<b>1.80</b>	<b>1.80</b>	<b>1.80</b>	<b>1.80</b>	<b>1.80</b>	<b>1.80</b>
<b>LUX OPERATIONS</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>0.90</b>	<b>0.90</b>	<b>0.90</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>INDIRECT</b>	<b>17.00</b>	<b>17.10</b>	<b>17.10</b>	<b>17.10</b>	<b>17.10</b>	<b>17.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>	<b>16.10</b>
<b>Grand Total</b>	<b>128.90</b>	<b>129.00</b>	<b>128.00</b>	<b>128.35</b>	<b>128.35</b>	<b>128.35</b>	<b>127.35</b>	<b>127.35</b>	<b>127.85</b>	<b>127.85</b>	<b>127.85</b>	<b>127.85</b>

### SDSTA Staffing Plan by Funding Source February 2017

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# Finance & HR Department—Appendix D

REPORT DATE 03/07/17

SOUTH DAKOTA SCIENCE & TECHNOLOGY

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DIVISION: ALL

BALANCE SHEET

## ASSETS

AS OF  
02/28/17

### CURRENT ASSETS

First Interstate Checking	\$ 551,276.20
First Interstate Other	17,199.41
	-----
Total in Local Checking	568,475.61
SD Treas: Indemnification	7,500,000.00
SD Treas: Mine Closure	1,398,522.89
SD Treas: Operating	361,693.54
SD Treas: Sanford Gift #2	1,039,727.97
SD Treas: Experiments	3,364,350.84
	-----
Total with SD Treasurer	13,664,295.24
Billed A/R	2,674,393.33
Unbilled A/R	543,240.09
Other A/R	237,193.77
Inventory - Supplies	2,408,322.74
Inventory - Warehouse	34,449.62
Other Current Assets	393,304.76
	-----
Total Current Assets	20,523,675.16

### FIXED ASSETS

Land, Underground & Other	12,398,635.03
Bldgs & Infrastructure	9,122,537.68
Improvements	63,074,266.88
Computer Equipment	440,207.18
Equipment & Fixtures	10,580,972.55
Accum Depr & Amort	(12,272,672.81)
	-----
Total Fixed Assets	83,343,946.51

### OTHER ASSETS

Work in Process	3,334,448.33
Equipment - Capital Lease	268,134.61
Pension Deferred Outflows	6,287,854.00
Xenon Purchased	1,606,663.11
	-----
Total Other Assets	11,497,100.05

### TOTAL ASSETS

=====

\$ 115,364,721.72

=====

DIVISION: ALL

## BALANCE SHEET

## LIABILITIES &amp; EQUITY

AS OF  
02/28/17

## CURRENT LIABILITIES

Accounts Payable	\$ 1,028,498.03
Other Payables	100,280.58
	-----
Total Accounts Payable	1,128,778.61
Accrued Payroll Liab	1,367,151.69
	-----
Total Current Liabilities	2,495,930.30

## OTHER LIABILITIES

LT Accrued EB/Lease	268,134.61
LT Xenon Notes Payable	4,000,000.00
Pension Deferred Inflows	3,184,802.00
	-----
Total Other Liabilities	7,452,936.61

## EQUITY

Restricted: Indemnificati	7,500,000.00
Restricted: Mine Closure	1,398,522.89
Restricted: Sanford Gift2	1,039,727.97
Restricted: Pension	3,103,052.00
Restricted: Experim. Int.	3,364,350.84
	-----
Total Restricted Funds	16,405,653.70
Investment in Gen FA	83,343,946.51
Unrestricted Funds	5,666,254.60
	-----
Total Equity	105,415,854.81

## TOTAL LIABILITIES &amp; EQUITY

=====

\$ 115,364,721.72

=====

ALL

## STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/17

	YR-TO-DATE
	<hr/>
REVENUE	
DOE Subcontracts	\$ 17,954,607.55
NSF/NASA Subcontracts	10,208.70
State Revenue	12,000.00
Contributions & Donations	125,000.00
Checking Interest	495.52
Interest Income	93,528.12
	-----
TOTAL REVENUE	18,195,839.89
DIRECT COSTS	
Direct Labor	4,985,614.86
ERT Labor	13,851.00
Board of Directors	5,669.01
Capital Outlay >\$5K	574,651.00
Contractual Svcs	4,270,447.33
Inventory	138,029.02
Supplies	1,099,900.90
Travel - Domestic	45,136.90
Travel - Foreign	51,587.49
Utilities	1,406,006.01
Other Direct Costs	126,884.67
Unallow/Unbill Costs	244,851.36
	-----
TOTAL DIRECT COSTS	12,962,629.55
INDIRECT COSTS	
Fringe Benefits	2,801,306.40
Overhead	3,654,251.55
	-----
TOTAL INDIRECT COSTS	6,455,557.95
	-----
GROSS PROFIT FROM OPERATIONS	(1,222,347.61)
	-----
OTHER INCOME	
Water Treatment	89,806.50
Miscellaneous Income	86,107.87
Other Operating Income	2,090.88
	-----
TOTAL OTHER INCOME	178,005.25
OTHER EXPENSES	
Reclass Incr Net Assets	(1,180,528.31)
	-----
TOTAL OTHER EXPENSES	(1,180,528.31)
	=====
NET INCOME/LOSS ( )	136,185.95
	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## ASSETS

	AS OF 02/28/17	AS OF 02/29/16	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 551,276.20	\$ 1,550,301.97	\$ (999,025.77)	-64.44%
First Interstate Other	17,199.41	27,632.44	(10,433.03)	-37.76%
	-----	-----	-----	-----
Total in Local Checking	568,475.61	1,577,934.41	(1,009,458.80)	-63.97%
SD Treas: Indemnification	7,500,000.00	7,500,000.00	-	0.00%
SD Treas: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
SD Treas: Operating	361,693.54	168,270.49	193,423.05	114.95%
SD Treas: Sanford	-	289,289.35	(289,289.35)	-100.00%
SD Treas: Sanford Gift #2	1,039,727.97	2,355,954.97	(1,316,227.00)	-55.87%
SD Treas: Experiments	3,364,350.84	3,054,502.00	309,848.84	10.14%
	-----	-----	-----	-----
Total with SD Treasurer	13,664,295.24	14,747,937.99	(1,083,642.75)	-7.35%
Billed A/R	2,674,393.33	2,004,609.80	669,783.53	33.41%
Unbilled A/R	543,240.09	512,897.86	30,342.23	-5.92%
Other A/R	237,193.77	123,096.54	114,097.23	92.69%
Inventory - Supplies	2,408,322.74	2,521,607.24	(113,284.50)	-4.49%
Inventory - Warehouse	34,449.62	368,921.81	(334,472.19)	-90.66%
Other Current Assets	393,304.76	292,777.09	100,527.67	34.34%
	-----	-----	-----	-----
Total Current Assets	20,523,675.16	22,149,782.74	(1,626,107.58)	-7.34%
<b>FIXED ASSETS</b>				
Land, Underground & Other	12,398,635.03	12,398,635.03	-	0.00%
Bldgs & Infrastructure	9,122,537.68	8,881,327.62	241,210.06	2.72%
Improvements	63,074,266.88	64,557,726.85	(1,483,459.97)	-2.30%
Computer Equipment	440,207.18	455,888.25	(15,681.07)	-3.44%
Equipment & Fixtures	10,580,972.55	10,146,817.44	434,155.11	4.28%
Accum Depr & Amort	(12,272,672.81)	(10,370,552.35)	(1,902,120.46)	18.34%
	-----	-----	-----	-----
Total Fixed Assets	83,343,946.51	86,069,842.84	(2,725,896.33)	-3.17%
<b>OTHER ASSETS</b>				
Work in Process	3,334,448.33	4,328,647.80	(994,199.47)	-22.97%
Equipment - Capital Lease	268,134.61	404,065.01	(135,930.40)	-33.64%
Pension Deferred Outflows	6,287,854.00	7,176,478.00	(888,624.00)	-12.38%
Investment Captive Insurance	-	2,500,000.00	(2,500,000.00)	-100.00%
Xenon Purchased	1,606,663.11	-	1,606,663.11	100.00%
	-----	-----	-----	-----
Total Other Assets	11,497,100.05	14,409,190.81	(2,912,090.76)	-20.21%
<b>TOTAL ASSETS</b>				
	=====	=====	=====	=====
	\$ 115,364,721.72	\$ 122,628,816.39	\$ (7,264,094.67)	-5.92%
	=====	=====	=====	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 02/28/17	AS OF 02/29/16	\$ CHANGE	% CHANGE
<hr/>				
CURRENT LIABILITIES				
Accounts Payable	\$ 1,028,498.03	\$ 1,297,540.10	\$ (269,042.07)	-20.73%
Other Payables	100,280.58	8,091.16	92,189.42	1139.38%
	-----	-----	-----	-----
Total Accounts Payable	1,128,778.61	1,305,631.26	(176,852.65)	-13.55%
Accrued Payroll Liab	1,367,151.69	1,200,838.97	166,312.72	13.85%
	-----	-----	-----	-----
Total Current Liabilities	2,495,930.30	2,506,470.23	(10,539.93)	-0.42%
OTHER LIABILITIES				
LT Accrued EB/Lease	268,134.61	404,065.01	(135,930.40)	-33.64%
LT Xenon Notes	4,000,000.00	2,000,000.00	2,000,000.00	100.00%
Pension Deferred Inflows	3,184,802.00	4,412,373.00	(1,227,571.00)	-27.82%
	-----	-----	-----	-----
Total Other Liabilities	7,452,936.61	6,816,438.01	636,498.60	9.34%
TOTAL LIABILITIES	9,948,866.91	9,322,908.24	625,958.67	6.71%
EQUITY				
Restricted: Indemnificati	7,500,000.00	7,500,000.00	-	0.00%
Restricted: Captive	-	2,500,000.00	(2,500,000.00)	-100.00%
Restricted: Sanford I.Lab	-	289,289.35	(289,289.35)	-100.00%
Restricted: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
Restricted: Sanford Gift2	1,039,727.97	2,221,455.00	(1,181,727.03)	-53.20%
Restricted: Pension	3,103,052.00	2,764,105.00	338,947.00	12.26%
Restricted: Experm. Int.	3,364,350.84	3,054,502.00	309,848.84	10.14%
	-----	-----	-----	-----
Total Restricted Funds	16,405,653.70	19,709,272.53	(3,303,618.83)	-16.76%
Investment in Gen FA	83,343,946.51	86,069,842.84	(2,725,896.33)	-3.17%
Unrestricted Funds	5,666,254.60	7,526,792.78	(1,860,538.18)	-24.72%
	-----	-----	-----	-----
TOTAL EQUITY	105,415,854.81	113,305,908.15	(7,890,053.34)	-6.96%
TOTAL LIABILITIES & EQUITY	<u>\$ 115,364,721.72</u>	<u>\$ 122,628,816.39</u>	<u>\$ (7,264,094.67)</u>	<u>-5.92%</u>

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 02/28/17

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 17,954,607.55	\$ 14,400,404.01	\$ 3,554,203.54	24.68%
NSF/NASA Subcontracts	10,208.70	1,134.98	9,073.72	799.46%
State Revenue	12,000.00	2,023,457.04	(2,011,457.04)	-99.41%
Contributions & Donations	125,000.00	407,781.62	(282,781.62)	-69.35%
Checking Interest	495.52	113.49	382.03	336.62%
Interest Income	93,528.12	78,063.87	15,464.25	19.81%
	-----	-----	-----	-----
TOTAL REVENUE	18,195,839.89	16,910,955.01	1,284,884.88	7.60%
DIRECT COSTS				
Direct Labor	4,985,614.86	4,852,916.02	132,698.84	2.73%
ERT Labor	13,851.00	20,326.14	(6,475.14)	-31.86%
Board of Directors	5,669.01	9,320.70	(3,651.69)	-39.18%
Capital Outlay >\$5K	574,651.00	130,040.65	444,610.35	341.90%
Contractual Svcs	4,270,447.33	4,405,025.81	(134,578.48)	-3.06%
Inventory	138,029.02	193,977.04	(55,948.02)	-28.84%
Supplies	1,099,900.90	654,526.71	445,374.19	68.05%
Travel - Domestic	45,136.90	60,591.79	(15,454.89)	-25.51%
Travel - Foreign	51,587.49	34,962.18	16,625.31	47.55%
Utilities	1,406,006.01	1,545,652.05	(139,646.04)	-9.03%
Other Direct Costs	126,884.67	162,298.77	(35,414.10)	-21.82%
Unallow/Unbill Costs	244,851.36	236,827.97	8,023.39	3.39%
	-----	-----	-----	-----
TOTAL DIRECT COSTS	12,962,629.55	12,306,465.83	656,163.72	5.33%
INDIRECT COSTS				
Fringe Benefits	2,801,306.40	2,525,316.96	275,989.44	10.93%
Overhead	3,654,251.55	2,708,231.38	946,020.17	34.93%
	-----	-----	-----	-----
TOTAL INDIRECT COSTS	6,455,557.95	5,233,548.34	1,222,009.61	23.35%
	-----	-----	-----	-----
GROSS PROFIT	(1,222,347.61)	(629,059.16)	(593,288.45)	-94.31%
	-----	-----	-----	-----
OTHER INCOME				
Water Treatment	89,806.50	179,295.63	(89,489.13)	-49.91%
Miscellaneous Income	86,107.87	56,247.36	29,860.51	53.09%
Other Operating Income	2,090.88	2,437.06	(346.18)	-14.20%
	-----	-----	-----	-----
TOTAL OTHER INCOME	178,005.25	237,980.05	(59,974.80)	-25.20%
OTHER EXPENSES				
Loss(Gain) on Sale of FA	-	154,564.38	(154,564.38)	-100%
Reclass Incr Net Assets	(1,180,528.31)	(1,061,231.64)	(119,296.67)	11.24%
	-----	-----	-----	-----
TOTAL OTHER EXPENSES	(1,180,528.31)	(906,667.26)	(273,861.05)	30.21%
	=====	=====	=====	=====
NET INCOME/LOSS ( )	\$ 136,185.95	\$ 515,588.15	\$ (379,402.20)	-73.59%
	=====	=====	=====	=====



**South Dakota Science & Technology Authority**  
**Available Resources**  
**2/28/2017**

Cash Total Checking	\$ 551,276
Cash With State Treasurer	<u>\$ 13,664,295</u>
Total Cash	\$ 14,215,571
Less: Restricted Funds	
Indemnification/Mine Closure	\$ (8,898,523)
Experiments (Xenon, Interest,Infrastructure)	<u>\$ (3,364,351)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 1,952,697
Plus: Accounts Receivable Billed	\$ 2,674,393
Accounts Receivable Unbilled	\$ 543,240
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (2,495,930)</u>
Available Cash	<u><u>\$ 2,674,400</u></u>

## SDSTA Operating Budget Summary FY2017

Actual vs Budget

Feb. 2017 &amp; YTD

	Feb. 2017	Budget	\$ Over/Under Budget	% of Budget	Actual YTD	YTD Budget	\$ Over/Under Budget	% of Budget	% Remaining
									100%
SDSTA (Authority) Direct Charges									
Board of Directors	\$18,425.00	\$19,900.00	\$1,475.00	92.59%	\$148,606.00	\$159,200.00	\$10,594.00	93.35%	6.65%
Executive Office	\$19,904.00	\$22,144.00	\$2,240.00	89.88%	\$130,532.00	\$132,326.00	\$1,794.00	98.64%	1.36%
Science Center E & O	\$0.00	\$0.00	\$0.00	0.0%	\$34,804.00	\$29,749.00	-\$5,055.00	116.99%	-16.99%
Science Liaison	-\$42.00	\$0.00	\$42.00	100.0%	-\$1,557.00	\$0.00	\$1,557.00	0.00%	0.00%
Sanf.L. Visitor C. (Director)	\$3,477.00	\$3,929.00	\$452.00	88.5%	\$52,120.00	\$56,727.00	\$4,607.00	91.88%	8.12%
Subtotal	\$41,764.00	\$45,973.00	\$4,209.00	90.85%	\$364,505.00	\$378,002.00	\$13,497.00	96.43%	3.57%
Federal/State Funding - Direct Charges									
Fermi P.O.#620223 Building/Infra.	\$0.00	\$0.00	\$0.00	0.0%	\$11,814.00	\$30,000.00	\$18,186.00	39.38%	60.62%
Fermi P.O.#625500 F.SiteFacil.Servic	\$0.00	\$0.00	\$0.00	0.0%	\$61,775.00	\$75,498.00	\$13,723.00	81.82%	18.18%
Fermi P.O.#625501 Engin.Services	\$0.00	\$0.00	\$0.00	0.0%	\$151,772.00	\$156,607.00	\$4,835.00	96.91%	3.09%
Fermi P.O.#625691 B/Site Final Des.	\$118,674.00	\$120,000.00	\$1,326.00	98.9%	\$1,216,504.00	\$1,270,000.00	\$53,496.00	95.79%	4.21%
Fermi P.O.#625692 Pre Excav.F.D.	\$0.00	\$0.00	\$0.00	0.0%	\$926,918.00	\$960,000.00	\$33,082.00	96.55%	3.45%
Fermi P.O.Miscellaneous	\$31,269.00	\$33,176.00	\$1,907.00	94.25%	\$63,205.00	\$119,664.00	\$56,459.00	52.82%	47.18%
Fermi P.O.#631450 Engin. Services	\$16,750.00	\$21,022.00	\$4,272.00	79.68%	\$35,199.00	\$42,174.00	\$6,975.00	83.46%	16.54%
Fermi C#629760 Bridge OPS	\$897,240.00	\$922,063.00	\$24,823.00	97.31%	\$4,190,971.00	\$4,787,699.00	\$596,728.00	87.54%	12.46%
Fermi C#630223 Ross Rehab	\$508,744.00	\$453,893.00	-\$54,851.00	112.09%	\$1,093,520.00	\$1,209,274.00	\$115,754.00	90.43%	9.57%
LBNL LUX C#6973786	\$11,163.00	\$16,252.00	\$5,089.00	68.69%	\$102,854.00	\$126,173.00	\$23,319.00	81.52%	18.48%
LBNL Operations C#6994297	\$0.00	\$0.00	\$0.00	0.0%	\$3,293,406.00	\$3,192,294.00	-\$101,112.00	103.17%	-3.17%
LBNL LUX/Zeplin C#7255146	\$21,410.00	\$20,840.00	-\$570.00	102.74%	\$732,159.00	\$730,210.00	-\$1,949.00	100.27%	-0.27%
LBNL Ross Rehab C#7262800	\$0.00	\$0.00	\$0.00	0.0%	\$2,474,091.00	\$2,695,166.00	\$221,075.00	91.80%	8.20%
LBNL kISMET Task#7289931	\$0.00	\$0.00	\$0.00	0.0%	\$51,075.00	\$72,863.00	\$21,788.00	70.10%	29.90%
MJD (Majorana) ORNL144149	\$1,886.00	\$2,500.00	\$614.00	75.44%	\$5,625.00	\$18,000.00	\$12,375.00	31.25%	68.75%
RESPEC C#02703A	\$1,496.00	\$4,162.00	\$2,666.00	35.94%	\$87,356.00	\$103,324.00	\$15,968.00	84.55%	15.45%
Northwestern Univ. NASA981568	\$0.00	\$200.00	\$200.00	0.0%	\$112.00	\$1,600.00	\$1,488.00	7.00%	93.00%
BHSU-UGCampus Gen.Serv.	\$0.00	\$200.00	\$200.00	0.0%	\$0.00	\$1,600.00	\$1,600.00	0.00%	100.00%
Sanf.Sci.Ed.Center - GOED Funded	\$39,396.00	\$37,500.00	-\$1,896.00	105.06%	\$302,325.00	\$300,000.00	-\$2,325.00	100.78%	-0.77%
SDSM&Tech CASPAR Gen.Serv.	\$1,446.00	\$2,666.00	\$1,220.00	54.24%	\$8,049.00	\$16,038.00	\$7,989.00	50.19%	0.00%
* Xilinx, Inc. P.O.#732495	\$253.00	\$240.00	-\$13.00	105.42%	\$1,672.00	\$2,040.00	\$368.00	81.96%	18.04%
Subtotal	\$1,649,727.00	\$1,634,714.00	-\$15,013.00	100.92%	\$14,810,402.00	\$15,910,224.00	\$1,099,822.00	93.09%	6.91%
Indirect Expenses									
Indirect Charges Personnel	\$120,245.00	\$120,966.00	\$721.00	99.40%	\$1,010,370.00	\$1,009,489.00	-\$881.00	100.09%	-0.09%
Indirect Charges Other	\$284,020.00	\$257,052.00	-\$26,968.00	110.49%	\$3,119,794.00	\$2,497,077.00	-\$622,717.00	124.94%	-24.94%
Subtotal	\$404,265.00	\$378,018.00	-\$26,247.00	106.94%	\$4,130,164.00	\$3,506,566.00	-\$623,598.00	117.78%	-17.78%
Totals	\$2,095,756.00	\$2,058,705.00	-\$37,051.00	101.8%	\$19,305,071.00	\$19,794,792.00	\$489,721.00	97.53%	2.47%

\* Private Corporation (Commercial Group)

SDSTA CAPEX Budget Summary FY16/17  
Actual vs Budget  
February 2017 & YTD

Budget Area	FY2017 Monthly				FY2017 YTD				
	Actual Month	Budget	\$ Over/Under Budget	% of Budget	Actual YTD	Budget	\$ Over/Under Budget	% of Budget	% Remaining
									100.00%
Operational CAPEX	\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%	\$ 3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%
TOTAL CAPEX	\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%	\$ 3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%

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

Project #	Project Description	Feb. 2017	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ -	\$ -	\$ -	0.00%
CAP2014-05	CASPAR Experiment Development	\$ -	\$ -	\$ -	0.00%
CAP2016-02	LZ Surface Facility Upgrades	\$ 265,142.68	\$ 124,056.00	\$ (141,086.68)	213.73%
CAP2016-03	LZ Xenon Gas	\$ 425.52	\$ 417.00	\$ (8.52)	102.04%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ -	\$ -	\$ -	0.00%
CAP2017-01	Ellison Option	\$ 759.00	\$ -	\$ (759.00)	100.00%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
Monthly Totals		\$ 266,327.20	\$ 124,473.00	\$ (141,854.20)	213.96%

SD Science & Technology Authority  
Operational CAPEX Budget  
YTD FY2017 Actual vs Budget

Project #	Project Description	February 2017 YTD	FY2017 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 5,726.44	\$ 36,623.00	\$ 30,896.56	15.64%	84.36%
CAP2014-05	CASPAR Experiment Development	\$ 40,447.98	\$ 161,525.00	\$ 121,077.02	25.04%	74.96%
CAP2016-02	LZ Surface Facility Upgrades	\$ 975,480.45	\$ 1,086,099.00	\$ 110,618.55	89.82%	10.18%
CAP2016-03	LZ Xenon Gas	\$ 2,087,120.96	\$ 4,670,064.00	\$ 2,582,943.04	44.69%	55.31%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ 54,138.62	\$ 55,472.00	\$ 1,333.38	97.60%	2.40%
CAP2017-01	Ellison Option	\$ 759.00	\$ 555,000.00	\$ 554,241.00	0.14%	99.86%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 27,956.75	\$ 285,312.00	\$ 257,355.25	9.80%	90.20%
	Totals	\$3,191,630.20	\$ 6,850,095.00	\$ 3,658,464.80	46.59%	53.41%

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**Review of Updated Policies—Mr. Mike Headley / Mr. Tim Engel**

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**ITEM 10. REVIEW OF SDSTA POLICIES**

Attached are updated policies reviewed by legal counsel and recommended for approval:

- Travel Approval and Reimbursement—Employees Policy 3:12
- Workers' Compensation Policy 4:8

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**Recommended Action:**

*Motion to approve updated Travel Approval and Reimbursement—Employees Policy 3:12 and Workers' Compensation Policy 4:8, as presented.*

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**South Dakota Science & Technology Authority**  
**Policies and Procedures Manual**

**SUBJECT: Travel Approval and Reimbursement—Employees**

**NUMBER: 3:12**

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South Dakota Science and Technology Authority (SDSTA) employees who anticipate traveling out-of-state or internationally on official SDSTA business must obtain supervisor approval prior to making travel arrangements. Supervisors will approve or deny requests in a timely manner.

Employees whose travel will be federally funded will obtain ~~sponsor approval from the funding agency~~ -by the deadline identified in the ~~sponsor agreement with the funding agency~~. Travelers must also comply with any additional ~~sponsor~~funding agency requirements, including but not limited to:

- Provide documented cost comparisons or justifications to support travel cost/expense associated with airfare, lodging, and weekend travel, to ensure costs are effective and adhere to federal travel regulations;
- Limit tipping to 15%; and
- Limit requests for lodging reimbursement to GSA Per Diem rates.
- Employees whose travel will be federally funded will obtain sponsor approval by the deadline identified in the sponsor agreement, and will comply with any additional sponsor requirements.
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SDSTA employees must submit ~~required~~-documentation ~~for~~evidencing expenses incurred for meals and ~~other travel~~-related expenses on a form prescribed by the SDSTA to receive reimbursement.

**South Dakota Science & Technology Authority**  
**Policies and Procedures Manual**

**SUBJECT: Workers' Compensation Policy**

**NUMBER: 4:8**

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A South Dakota Science and Technology (SDSTA) employee who is injured or contracts a disease as a result of and/or in the course of employment must report such injury or disease as soon as possible.

Within three (3) business days of occurrence, the employee must report in writing the circumstance of the injury or disease to his or her supervisor and to the Environment, ~~Health, and Safety~~ and Health Department. Failure by the employee to report an injury on time may result in denial of the claim.

Within ten (10) days, not counting Sundays and legal holidays, after the employer has knowledge of the occurrence of an injury, the Employer's First Report of Injury must be made in writing to the Division of Labor and Management in the South Dakota Department of Labor and Regulation.

Questions concerning status of a claim should be directed to the Environment, ~~Health, Safety~~ and ~~Safety-Health~~ Department.

**Approval of SDSTA BAC Charter—Chairperson Casey Peterson**

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At the February 24 Telephonic Board meeting, consideration of the SDSTA Business Advisory Council (BAC) Charter was tabled for further discussion. Attached is the updated Charter to be considered for approval incorporating changes discussed at the meeting.

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**Recommended Action:**

*Motion to approve the SDSTA Business Advisory Council Charter as presented.*

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# SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY BUSINESS ADVISORY COUNCIL CHARTER

## **Purpose and Scope:**

To assist the South Dakota Science and Technology Authority ("SDSTA") in accomplishing its mission; to foster and encourage regional economic development and job growth related to SDSTA's mission and operations; and to provide general advice and counsel to the SDSTA Chair and Board of Directors on the issues of economic development and job growth related to SDSTA's mission and operations.

## **Membership:**

- A. The Business Advisory Council ("BAC") shall be made up of representatives of industry, the trades, service businesses, professional services, business-related organizations such as local chambers of commerce or economic development corporations and other, similar persons or entities from the Black Hills and surrounding areas, including adjoining areas outside of South Dakota, and others from within and outside South Dakota as the SDSTA Chair deems appropriate. Not all members may be persons or representatives of entities presently contracting with SDSTA.
- B. The following shall act as ex-officio members:
  - The prior and current SDSTA Executive Directors.
  - Designee of the Governor of the State of South Dakota.
- C. BAC members should exhibit a commitment to, and enthusiasm for, the mission of SDSTA.
- D. BAC members, other than ex-officio members, shall serve for a term of three (3) years, which is renewable for up to one additional three-year term. The foregoing notwithstanding, the terms of the initial membership shall be staggered as determined by the SDSTA Chair such that not all terms shall expire at the same time. Persons appointed to less than a full three-year term may serve two (2) full three-year terms in addition to the shorter initial term.
- E. BAC members are selected by the Chair of SDSTA Board of Directors with the advice of the Office of the Governor of the State of South Dakota.
- F. The BAC shall consist of no fewer than nine (9) and no more than fifteen (15) members exclusive of ex-officio members.

## **Meetings:**

- A. The BAC will meet twice a year in June May and DecemberNovember.
- B. The Chair of the BAC, in consultation with SDSTA will circulate a meeting agenda and related materials to BAC members at least two (2) weeks prior to the meeting date.
- C. The Chair of the BAC, in consultation with SDSTA, may call additional meetings when the Chair deems necessary upon sending notice to all BAC members at least ten (10) days in advance of the meeting.
- D. The meetings will take place at the Sanford Lab facilities in Lead, SD or at such other places in or near Lead, SD as the Chair of the BAC, in consultation with the SDSTA Chair, may deem appropriate. SDSTA shall provide staff support as necessary.
- E. The Chair of the BAC shall provide at least the same public notice of a BAC meeting as is required for meetings of the SDSTA Board of Directors.

- F. SDSTA staff shall keep minutes of meetings of the BAC, which minutes, along with the agenda and any materials supporting the agenda or otherwise provided to BAC members, shall be maintained by SDSTA and open to public inspection.
- G. SDSTA shall not provide any information, including but not limited to any presentation materials, to BAC members which is not otherwise available to the public at large. By way of example and not limitation, information and presentation materials provided during the public portion of SDSTA Board of Director meetings would be appropriate to also provide to BAC members.
- H. Information and presentation materials provided at BAC meetings shall not be procurement or competition sensitive in nature. BAC activities and discussions will respect and support the integrity of SDSTA procurement activities, and promote full and open competition in SDSTA procurements.
- I. All proceedings of the BAC shall be open to the public; no executive or closed sessions are permitted.
- I.J. The SDSTA Chair will provide a report to the SDSTA Board of Directors and Executive Director after each BAC meeting.

#### **Officers:**

- A. There shall be a Chair of the BAC, chosen by the Chair of the SDSTA Board of Directors for a term of two (2) years, whose duties shall include:
  - 1. Preparing the agenda in consultation with the Chair of SDSTA and the ex-officio members of the BAC.
  - 2. Conducting the meeting and ensuring that matters of importance to the BAC and SDSTA are fully discussed.
  - 3. Providing written advice and counsel to the Chair of SDSTA concerning matters within the purview of the BAC.
- B. There shall be a Vice-Chair of the BAC, chosen by and from the members of the BAC, whom shall act as Chair when the Chair is absent or otherwise unable to act.

#### **Committees:**

- A. There are no standing committees of the BAC.
- B. The BAC may form ad hoc committees as needed.

#### **Expectations of Members:**

- A. Members are expected to attend at least one (1) meeting per calendar year, either in person or by teleconference.
- B. Members shall serve without compensation, except that SDSTA shall pay the members' reasonable travel expenses directly related to meetings of the BAC and will provide refreshments and meals (as appropriate) at BAC meetings. Mileage shall be paid at the then-applicable IRS rate.

#### **Annual Review:**

At each SDSTA annual meeting, the SDSTA Board of Directors will review this Charter and the activities of the BAC, and will consider any necessary modifications to this Charter or to the activities of the BAC.

**Executive Session—Chairperson Casey Peterson**

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

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**Recommended Action:**

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

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

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

*OR*

*...as discussed and stated otherwise.*

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**Recommended Action:**  
*Motion to accept report.*

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**Select Nominating Committee – Chairperson Casey Peterson**

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Dr. Ani Aprahamian and Mr. Dana Dykhoush have agreed to serve on the Nominating Committee for 2017. The election of officers will be held at the June 22, 2017 meeting.

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**Recommended Action:**

*None.*

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**South Dakota Science and Technology Authority**  
**March 16, 2017 Board Meeting**

**Agenda Item: 16**

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

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The next board meeting will be held on Thursday, June 22, beginning at 8:00 AM (Mountain Time).

<b>2017 Board Schedule</b>	
March 16, 2017	08:00 am (MT)
<b>June 22, 2017</b>	<b>08:00 am (MT)</b>
September 21, 2017	08:00 am (MT)
December 14, 2017	09:00 am (MT), lunch provided

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

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**Recommended Action:**

*None.*

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**Board Comments—Chairperson Casey Peterson**

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

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**Recommended Action:**

*None.*

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