

**South Dakota Science and Technology Authority**

**Board Meeting  
June 22, 2017**



630 East Summit Street  
Lead, SD 57754

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**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  
Dr. Jan Puszynski, ex-officio member  
Mr. Ron Wheeler  
Dr. Robert Wilson

**1B. Introduce Dr. Jan Puszynski**

Dr. Puszynski received his BS and MS degrees in chemical engineering from Technical University in Wroclaw, Poland in 1973 and his PhD in chemical engineering from the Institute of Chemical Technology in Prague in 1980. In 1982, he joined the Chemical Engineering Department at the State University of New York at Buffalo, NY where he worked as a visiting assistant professor and later as a research professor for 9 years.

In 1991, he joined the South Dakota School of Mines and Technology (SD Mines) as a faculty member. During his tenure at SD Mines, he worked as a full professor of chemical engineering, college dean, and in April 2014 he was appointed as Vice President for Research. Under his leadership, the research at SD Mines has grown substantially. Dr. Puszynski has been educating undergraduate and graduate students at SD Mines for almost twenty-six years. During his tenure at SD Mines, he received several multi-million awards and he established both national and international reputation in self-propagating high-temperature synthesis of advanced ceramic and intermetallic materials as well as novel nanoenergetic materials.

Since 1996, Professor Puszynski has been working as the PI on several R&D projects funded by the Naval Surface Warfare Center, Indian Head Explosive Ordnance Disposal Technical Division (NSWC IHEODTD) and other DoD organizations. In 1999/2000, he spent one year-long sabbatical leave working at NSWC IHEODTD. During his stay at Indian Head he assisted this Navy's Center in designing, building, and testing of a new installation for continuous production of aluminum nanopowders using a low pressure evaporation/condensation process. At that time, this was the first installation in USA capable of producing of hundreds of grams of Al nanopowders. The aluminum nanopowders produced by the R&D team from NSWC IHEODT, Dr. Puszynski was a member, were favorable tested by the Navy, Army, Air Force, DoE, and other government agencies. Later on, Professor Puszynski got involved in a full characterization of aluminum nanopowders and development of metastable nanoenergetic composites (MNC).

In 2001, Dr. Puszynski together with research collaborators from three other U.S. universities received the first Defense University Research Initiative on Nanotechnology grant from the Army Research Office and his research group joined the DoD Center on Nanoenergetic Research.

**Call to Order continued...**

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In 2011/2012, Dr. Puszynski spent his second sabbatical leave at CAD/PAD Division at NSWC IHEODT. During his last stay at this organization he was involved in development of a new propellant replacing ammonium perchlorate as a key oxidizer. His other duties included troubleshooting of key technological aspects of production of propellants for CAD/PAD devices.

Professor Puszynski's expertise is in reaction engineering, energetic materials, materials science and mathematical modeling of reactive systems. He has published over one-hundred seventy five scientific papers and presented more than two-hundred papers and invited seminars at national and international conferences. During his professional career, he supervised numerous undergraduate and graduate M.S. and Ph.D. students, who are presently work in industry and academia. Professor Puszynski is also a co-author of several patents submitted by CAD/PAD Division at NSWC IHEODT and other DoD organizations. He is also a recipient of several SD Mines, SD Board of Regents, national and international awards. In the past, he served as a president of the American Institute of Chemical Engineers (AIChE) Energetic Materials Group, which promotes research and education in the area of energetics. In 2010, he was elected as a fellow of AIChE and in 2014 received Life Achievement Award from Joint Navy/Air Force Program in recognition of his enduring contributions to the CAD/PAD Joint U.S. Air Force and the U.S. Navy Program.

**1C. Introduce Guests**

**Approve Agenda—Chairperson Casey Peterson**

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Attached is the SDSTA Board agenda for the June 22, 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, June 22, 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 Dr. Jan Puszyński C. 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 March 16, 2017 and April 27, 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. Audit Committee A. Annual appointment of members B. Annual review of Audit Charter	-- Chair Casey Peterson	<i>Annual appointment of committee members and review of Charter per Audit Charter dated June 19, 2014</i>
8. Financial Report A. Financial Summaries B. FY2018 Budget	-- Mr. Mike Headley -- Ms. Nancy Geary	<i>8A. Motion to accept financial summaries as presented 8B. Motion to approve FY2018 budget as presented</i>
9. Report from Executive Director A. SDSTA Quarterly Update B. SDNG Facility Project Update C. E&O Update	-- Mr. Mike Headley -- Mr. Dan Regan -- Dr. June Apaza	<i>Presentation Presentation Motion to accept executive director's report</i>
10. Approval of Amendment to LBNF Temporary Construction Easement	-- Mr. Mike Headley	<i>Motion to approve amendment to the LBNF Temporary Construction Easement and authorize the chairperson to sign Supplemental Agreement No. 1</i>
11. Approval of FY2018 ORM Intergovernmental Agreement	-- Mr. Mike Headley	<i>Motion to approve FY2018 Intergovernmental Agreement between the Bureau of Administration, Office of Risk Management of the State of SD and SDSTA and authorize SDSTA Executive Director to sign agreement</i>
12. SDSTA Policies and Procedures A. Annual Review of P&P B. *Sign Annual Statements affirming compliance with Financial Conflict of Interest Policy 3:27	-- Mr. Mike Headley	<i>11A. Motion to approve new and updated SDSTA policies and procedures as presented 11B. *Each board member is to sign a copy of the financial conflict of interest statement</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.

## Meeting of the Board of Directors AGENDA

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|--|---------------------------|---|
| 13. Executive Session<br>(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. Update on SDSTA Business Advisory Council Proposal | -- Vice-Chair Ron Wheeler | <i>Informational</i>  |
| 16. Report from Nominating Committee                   | -- Mr. Dana Dykhous       | <i>Reference nominating committee minutes in board packet</i>   |
| 17. Election of Officers                               | -- Chair Casey Peterson   | <i>Motion to accept the report from the nominating committee and to elect the slate of officers as discussed (follow procedure adopted August 2008)</i> |
| 18. Confirm date and time of next meeting              | -- Chair Casey Peterson   | <i>Thursday, September 21, 2017 at 8:00am (MT)</i>  |
| 19. Board Comments                                     |                           |   |
| 20. Adjourn  | -- Chair Casey Peterson   | <i>Motion to adjourn</i>  |
- Ellison Hill Tour*                      *Staff will conduct a tour of the newly-acquired Ellison Hill property for all board members who are interested. No board business will be discussed.*

### 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. Jan Puszyński, <i>ex-officio member</i>	SDSM&T Interim President	
Committees and Members (2016-2017)			
	Audit Committee Members:	Nominating Committee Members:	
	➤ Pat Lebrun-Chair	➤ Ani Aprahamian	
	➤ Paul Christen	➤ Dana Dykhous	
	➤ Casey Peterson, <i>ex-officio</i>		
2017 Board Schedule			
	February 24, 2017	3:30 pm (MT)	Special Telephonic
	March 16, 2017	8:00 am (MT)	E&O Bldg
	April 27, 2017	11:00 am (MT)	Special Telephonic
	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:

- March 16, 2017
- April 27, 2017 (telephonic)

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**Recommended Action:**

*Motion to approve the Minutes of the March 16 and April 27, 2017 meetings as presented.*

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**South Dakota Science and Technology Authority Board of Directors**  
**Meeting Minutes**  
**Thursday, March 16, 2016**  
**Lead, South Dakota**

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 8:01 AM Mountain Time (MT) on Thursday, March 16, 2017 in the Education and Outreach (E&O) Conference Room at the South Dakota Science and Technology Authority, 630 East Summit Street, Lead, South Dakota.

**MEMBERS OF THE BOARD IN ATTENDANCE**

Mr. Paul Christen (by phone)  
Vice Chairperson Dana Dykhouse  
Secretary/Treasurer Patricia Lebrun (by phone)  
Chairperson Casey Peterson  
Vice Chairperson Ron Wheeler (by phone)  
Dr. Heather Wilson

**MEMBERS OF THE BOARD NOT IN ATTENDANCE**

Dr. Ani Aprahamian  
Dr. Robert Wilson

**SDSTA STAFF**

Ms. Billi Bierle, Sanford Lab Homestake Visitor Center (SLHVC) Director  
Mr. Tim Engel, Legal Counsel  
Ms. Nancy Geary, Chief Financial Officer  
Mr. Mike Headley, Executive Director  
Dr. Jaret Heise, Science Director  
Ms. Mandy Knight, Administrative Services Manager  
Mr. Bryce Pietzyk, Underground Access Director  
Mr. KC Russell, Cultural Diversity Coordinator  
Mr. Noel A. Schroeder, Environment, Safety and Health (ESH) Director  
Mr. Al Stratman, Engineering Director  
Ms. Constance Walter, Communications Director

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

Dr. June Apaza, Education and Outreach Director (BHSU)  
Dr. Ben Saylor, Sanford Science Education Center Co-Director  
Mr. Al Van Zee, Black Hills Pioneer Journalist

**ITEM 1. CALL TO ORDER**

Chairperson Casey Peterson called the meeting to order at 8:01 AM (MT). Roll call was held. Chairperson Peterson and Mr. Dana Dykhouse were present in person; Mr. Paul Christen, Ms. Patricia Lebrun and Mr. Ron Wheeler joined the meeting by telephone. Dr. Ani Aprahamian and Dr. Robert Wilson were absent. Dr. Heather Wilson arrived later. Chairperson Peterson asked guests to introduce themselves.

**ITEM 2. APPROVE AGENDA**

Chairperson Peterson asked for a motion to approve the agenda.

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

### **ITEM 3. APPROVE MINUTES**

Chairperson Peterson asked for comments, changes or corrections to the Minutes of the December 15 and February 24 meetings. 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 December 15, 2016 and February 24, 2017 meetings as presented. By roll call vote, the motion passed unanimously.*

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

SDSTA Legal Counsel Mr. Tim Engel reminded the SDSTA board that the State Board of Internal Control has recommended all state and state-related entities include a conflicts of interest disclosure as a matter of course on their agenda. Mr. Engel said it is not the same as the waiver that is the next agenda item. He then asked if any board member has a conflict of interest to disclose. Hearing none, Mr. Engel proceeded to the next agenda item.

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

Mr. Engel said SDCL CH. 3-23 is the conflicts of interest legislation for boards and commissions passed in 2016. He said it has been amended, which amendment will take effect July 1, 2017. The amendment will eliminate the need for the kind of waiver being requested today.

Mr. Engel said Dr. Heather Wilson had completed a waiver request form, and the form and the SDSM&T Grant Report have been included in the board packets. 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.

On behalf of Dr. Heather Wilson, Mr. Engel requested that the board grant her request for a waiver.

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

### **ITEM 6. STATE BOARD OF INTERNAL CONTROLS UPDATE**

Mr. Engel gave a brief update on the state Board of Internal Control. The Board is now focusing on true internal controls for contract and grant control. Responses to a request for proposal for an outside internal controls consultant have been received, but as of the February meeting, no contract had been awarded. He said the thought is for an outside consultant to study the Bureau of Finance and Management and make recommendations, and the state would then adapt those recommendations for use with other state agencies.

Mr. Engel said Mr. Terry Miller has been appointed as the state Internal Control Officer. Mr. Miller is an accountant and works for the South Dakota Bureau of Finance and Management.

### **ITEM 7. 2017 LEGISLATIVE UPDATE**

Mr. Engel said there was a great deal of legislation this year that was of interest to SDSTA and provided an overview on the 2017 Legislative Session bills. He began with House Bills (HB) and Senate Bills (SB) that did not pass or were withdrawn: HB 1075, HB 1089, HB 1128, HB 1144, HB 1166, HB 1192, HB 1198 and SB 152.

*Dr. Heather Wilson joined the meeting in person at 8:14am.*

House and Senate Bills that passed include: HB 1006 (will now require 72-business hours public meeting notice instead of 48-hour notice effective July 1, 2017); HB 1052, HB 1069, HB 1073 and SB 131, all relating to lobbying and gifts to public officials from lobbyists; and HB 1076 (government "Accountability Board"), HB 1068, SB 19, SB 54, SB 116 and SB 151 (relating to miscellaneous matters).

Mr. Engel also discussed HB 1170 at length and described how it will apply to SDSTA board members. This bill revises certain provisions regarding conflicts of interest for authority, board or commission members. He said the general rule now is that no board member may have an interest in or derive a direct benefit from a contract with the state agency which the board is attached (in SDSTA's case, GOED), with the state if it requires SDSTA board approval, or with a political subdivision subject to SDSTA's regulatory authority or control. This prohibition applies while a board member is in office and one year after. He said "direct benefit" and "interest" are defined differently now. "Direct benefit" means the board member or a person with whom the board member lives and commingles assets is a party to a contract, has 5% or more ownership interest in a party to the contract, acquires property under the contract or will receive any monetary gain or promotion. If the board member or a related person will receive a direct benefit, then the board member will need to ask for a waiver.

Mr. Engel said having an "Interest" in a contract means either the board member or spouse or other family member with whom the board member lives and co-mingles assets is either employed by the party to the contract or serves on the board of an entity that is a party to the contract and the person gets more than a per diem for serving on that board.

He said to get a waiver of the prohibition of direct benefits, a board member is required to provide full disclosure. Authorization is achieved in open session and included in the minutes and filed with the Auditor General and Attorney General. The waiver must be requested before the contract is signed or within 45 days after.

The board member is required to disclose an interest in a contract to the SDSTA board at the first regular board meeting after having learned of the interest. It would be recorded in the minutes and then filed with the Auditor General and Attorney General's office. The board member is only required to disclose it publically once a year; there is no approval or vote.

Mr. Engel said there is one more disclosure requirement that will affect some board members. At least once a year, board members must disclose an ownership interest of 5% or greater in an entity that receives grant money or otherwise contracts with the state or any political subdivision.

The existing law that is in effect today makes it a misdemeanor not to file a waiver. The amendments increase the penalties in certain circumstances.

Mr. Wheeler asked if he should disclose his existing contract with SDSTA as he had done so the first time and Mr. Engel said he should begin disclosing annually at the September meeting after the law takes effect July 1, 2017.

Dr. Heather Wilson asked to confirm if she will no longer be required to disclose after July 1, 2017 and Mr. Engel confirmed.

Mr. Engel explained SB 27 which creates a new felony crime of conflict of interest. This bill will apply to the SDSTA board. He said it will be a crime to derive a direct benefit from public funds in violation of the public trust (essentially, it would have to show a board member was doing something nefarious). He said to be safe if there is any doubt about a possible conflict of interest, disclose it.

In conclusion, Mr. Engel said there were many bills this session which could have affected SDSTA and/or the board, and asked if the board had any further questions. There were none.

## **ITEM 8. AUDIT COMMITTEE REPORT**

Ms. Lebrun said the board had discussed the Audit Report Fiscal Year Ended June 30, 2016 in detail at the December 15 meeting and said it is a clean report with no non-compliance and no discrepancies (no findings). She submitted the report for acceptance.

*Motion by Ms. Lebrun and second by Mr. Wheeler to accept the audit report fiscal year ended June 30, 2016 as presented. Motion passed unanimously.*

Chairperson Peterson said SDSTA Chief Financial Officer Ms. Nancy Geary and her staff have done a phenomenal job with the finances on a consistent basis and are to be commended.

## **ITEM 9. FINANCIAL REPORT**

Ms. Geary began her summary stating the receivables have increased for Fermilab and decreased for Lawrence Berkeley National Laboratory (LBNL) due to the contract transition last fall. She said SDSTA received \$1M from the South Dakota Community Foundation and \$1M from the South Dakota State University Foundation for xenon purchases in January. Also, the Dean Kurtz contract is moving along for the Surface Laboratory. SDSTA Executive Director Mr. Mike Headley said the tie-ins for the building will be completed in May and are on schedule. He said they are doing a great job.

Mr. Headley pointed out there is a substantial underrun with the Department of Energy (DOE) Operations funds. He said most of the underrun is based on the financial plan having the SURF Bridge contract finishing in December but that has been extended until June 2017; it is expected to be on plan at that time.

Also, Ms. Geary said the five-year contract is currently being reviewed by Fermilab. Mr. Headley answered questions about xenon purchases and prices and then continued with the next item on the agenda.

*Motion by Mr. Wheeler and second by Mr. Christen to accept the financial report as presented. Motion passed unanimously.*

## **ITEM 10. REPORT FROM THE EXECUTIVE DIRECTOR**

Mr. Headley discussed the SDSTA February Monthly Report beginning with the current safety performance and said things are going well; the SDSTA has only had one recordable injury.

He commented the Environment, Safety and Health Oversight Committee (ESHOC) held their review on site in December and since then, the ESH team and others are working on the recommendations made by ESHOC. It was noted the next ESHOC Review will be held in July. Mr. Headley said the SDSTA team has been looking at elements of the safety program that are working well and those that require additional attention. He said field observations have been working well and there is a pilot program at the Ross Shaft called 'Behavior-based Safety' that kicked off a few weeks ago. He said overall things are going great.

Mr. Headley said he attended meetings in Washington D.C. last week with Mr. Wheeler and Fermilab Director Dr. Nigel Lockyer. He said it was a good trip and the House and Senate support remain strong for Sanford Lab and the experiments. He said the continuing resolution is through April 28 at Fiscal Year (FY) 2016 levels but there is still an opportunity for a FY2017 appropriation.

Mr. Headley said LZ participated in three reviews with the last one held in January; construction is fully approved by DOE. He said the surface lab is on schedule and bidding for the underground work will begin in early summer.

In regard to the Long Baseline Neutrino Facility/Deep Underground Neutrino Experiment (LBNF/DUNE), Mr. Headley said LBNF plans are advancing. The Construction Management contract procurement process will conclude in early summer with a Construction Manager (CM) announcement expected in early June. SDSTA Engineering Director Mr. Al Stratman has been working with the SDSTA team on project plans called SURF reliability projects or site preparation projects. One example is the Tramway. Mr. Headley said the Tramway needs to be improved to support the pipe conveyor project but it is directly tied to the need for a budget to move forward.

Mr. Headley said he and LBNF Far-Site Conventional Facilities (FSCF) Project Manager Mr. Joshua Willhite gave updates on the lab and pipe conveyor system at an LBNF public meeting held on March 13 in Lead. He said approximately 100 people attended and it went well.

Mr. Headley said there has been focused effort to get the word out across the state about Sanford Lab. He, SDSTA Science Director Jaret Heise and SDSTA Communications Director Constance Walter traveled East River a few weeks ago and will do the same again in a few weeks to update the public on happenings at the Sanford Lab.

Mr. Headley said Sanford Lab Homestake Visitor Center (SLHVC) Executive Director Ms. Billi Bierle provided statistics relating to last year. The SLHVC hosted over 68,000 visitors, 100 buses and provided trolley tours to almost 6,000 people. Also, 68 groups used the SLHVC Classroom. He said strong goals are being set for this year and Ms. Bierle is doing a great job. Mr. Wheeler asked if the SLHVC was running in the black and Mr. Headley replied yes. He said this current calendar year, the VC is paying half of the Executive Director's salary and is starting to make the transition from the SDSTA paying her salary to the SLHVC paying all of it. Mr. Wheeler and Mr. Christen concurred that is great news.

Mr. Headley said Dean Kurtz Construction is working on the Radon Removal System building and it should be complete in another week.

Mr. Headley said the Ross Shaft Refurbishment contract is in place through end of September 2017. He said the bridge contract was extended through end of June 2017 and the 5-Year contract was submitted on February 15. SDSTA is fielding questions from Fermilab currently. Mr. Wheeler said he is impressed that the Ross Shaft is being completed on time and on budget and Mr. Headley concurred and said it was great to tell that story in Washington D.C. last week.

He said E&O Director Dr. June Apaza and her team continue to make great progress with the curriculum kits that are being distributed across the state. Mr. Headley said the numbers are impressive; between September 2015 and February 2017, 23,000 K-12 students have been served.

Mr. Headley said the Cultural Advisory Committee had a meeting on March 14 and Ms. Lebrun joined. He said the committee reinforced recommendations previously suggested and discussed continuing to put focus on hiring minorities including those in the Native American community. He said Ms. Walter is working with Cultural Diversity Coordinator Mr. KC Russell on developing a short 2 to 3-minute cultural video, which will be viewed alongside the SDSTA safety video. Mr. Headley then discussed additional cultural activities including tribal school visits, the SD Indian Education Summit and STARBASE. Ms. Lebrun said she thought it was a good meeting and was impressed with the quality and intensity of the meeting.

Mr. Headley said the monthly Deep Talks organized by SDSTA at the Visitor Center have been going well with a consistent crowd of approximately 60-75 people. The March 14 Pi Day event was a success.

Next, Mr. Headley introduced SDSTA Science Director Dr. Jaret Heise who gave a slide presentation on Science Integration. Dr. Heise provided an update on the Davis Campus—Large Underground Xenon (LUX) and MAJORANA DEMONSTRATOR (MJD). He also gave an update on the Ross Campus—Compact



Accelerator for Performing Astrophysical Research (CASPAR) and Black Hills State University Underground Campus (BHUC), including other users such as the Berkeley Low Background Counter (assays for first batch of 45 LZ photomultiplier tubes completed), University of South Dakota/Alabama (potential space identified for detector outside cleanroom, would need LN piping) and the South Dakota School of Mines & Technology (proposal submitted for hardware development to monitor surface contamination, collecting dust on witness plates in conjunction with cleanliness studies).

Mr. Wheeler asked how useful has it been for students to use the underground facility. Dr. Heise said BHSU and SDSM&T faculty are actively involved and Dr. Heather Wilson attested many students from SDSM&T are involved. Mr. Headley said the SDSTA should capture the number of faculty and students involved in research at the Sanford Lab because there is a good story developing.

Dr. Heise concluded with selected other research efforts and gave an update on the following: Conference on Science at SURF to be held May 13-15 at SDSM&T, SIGMA-V (project funded by DOE Enhanced Geothermal Systems based on kISMET-Permeability (k) and Induced Seismicity Management for Energy Technologies), Rock Melt, GEOX, NASA Astrobiology Institute and other biology on the different levels underground (800L, 1700L, 2000L, 4100L, 4850L).

Dr. Heather Wilson asked about SDSM&T involvement and progress with the Center for Disease Control (CDC) and National Institute for Occupational Health Administration (NIOSH). SDSTA ESH Director Mr. Noel Schroeder said, along with SDSM&T Mining Engineering Director Dr. Lance Roberts and SDSTA Underground Access Director Mr. Bryce Pietzyk, they have met with NIOSH. Dr. Heather Wilson said SDSM&T has been trying to get NIOSH to get a deep underground experiment station at Sanford Lab; Mr. Schroeder replied that they are awaiting a response from NIOSH to get the right people involved.

Mr. Headley then introduced Mr. Pietzyk who gave a presentation on major operations activities. Mr. Pietzyk provided an update on the Ross Shaft Rehabilitation (August 19, 2017 scheduled completion to the 5000L with 30 sets remaining); Yates Shaft (continued support of science and operations as well continue top-down maintenance below set 271); Underground Maintenance Crew (4850L ground Support—West Lab Drift planned completion September 2017 and East Lab Drift planned completion December 2017—2000L water inflow controls). Mr. Pietzyk said water inflow needs to be minimized so it does not impact science. He said the water inflow controls have been running for approximately a month and they have seen good results during this limited time. Mr. Headley said the work on Yates repairs are a few years solution, not 30 years. He said the refurbishment of the Yates is one of the major capital projects on the list that has been discussed with DOE. The next step within the next few years is to acquire funds for the Yates Shaft design work. Mr. Pietzyk then asked if there were further questions. There were none. Mr. Headley said this is important work and Mr. Pietzyk and his team are doing an amazing job.

*Motion by Mr. Dykhouse and second by Mr. Christen to accept the executive director's report. By roll call vote, the motion passed unanimously.*

## **ITEM 11. 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 3:12 Travel Approval—Employees Policy (*updated; to comply with Federal Travel Regulations and Fermi Research Alliance requirements*)



- Policy 4:8 Workers' Compensation Policy (*updated; changed department name "EHS" to "ESH" and updated the SD Department of Labor's name*)
- Policy 4:13 Inclement Weather Operations Policy (*updated; to include overtime hours*)

Mr. Headley said several Policies and Procedures in the Manual have been retired. He said between now and the June meeting, the policies, procedures and employee handbook will be consolidated.

*Motion by Mr. Wheeler and second by Ms. Lebrun to approve the new and updated policies as presented. By roll call vote, the motion passed unanimously.*

## **ITEM 12. APPROVAL OF SDSTA BUSINESS ADVISORY COUNCIL CHARTER**

Chairperson Peterson motion to table this item to no later than the December 14, 2017. He said it became apparent at the last meeting that board members need to become more informed about this concept. He said he would like to appoint a committee of three to explore it further.

*Motion by Mr. Dykhous and second by Mr. Christen to table approval of the SDSTA Business Advisory Council Charter. By roll call vote, the motion passed unanimously.*

Chairperson Peterson then appointed a committee made up of Mr. Christen, Mr. Headley and Mr. Wheeler to study the business advisory council proposal and bring it back to the board before December. He said this could be delayed further if needed.

## **ITEM 13. EXECUTIVE SESSION**

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

*The board recessed at 9:58 AM for a break and Executive Session and reconvened at 10:43 AM.*

## **ITEM 14. REPORT FROM EXECUTIVE SESSION**

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

*Motion by Mr. Dykhous and second by Mr. Wheeler to accept the Executive Session Report. Motion passed unanimously.*

## **ITEM 15. SELECT NOMINATING COMMITTEE**

Chairman Peterson said he had asked Dr. Aprahamian and Mr. Dykhous to serve on the Nominating Committee and they agreed. He reminded the board that the annual election of officers will be held at the June meeting.

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

Chairperson Peterson asked if there were any concerns with the board meeting scheduled for Thursday, June 22, 2017 at 8:00 A.M. (MT). There were none.

## **ITEM 17. BOARD COMMENTS**

Chairperson Peterson asked Dr. Heather Wilson to report on her job status and she said she is President of SDSM&T until confirmed by the Senate; a hearing will be perhaps scheduled next month.

*Mr. Christen rejoined the meeting by teleconference at 10:45 AM.*

Dr. Heather Wilson said SDSM&T is hosting the SURF Conference in May and she has asked Fermilab to co-host the event. She would like this to be an annual event and to host every other year in the Black Hills on deep underground science. Dr. Heather Wilson said SDSM&T and RESPEC are working

cooperatively on a deep underground borehole experiment funded by DOE. She said RESPEC has issued four contracts for initial work in the community; it is part of the waste storage and deep underground program at DOE. The second phase relates to science outreach and rather than set up a separate effort, SDSM&T's recommendation is to work with Sanford Lab because they are so well aligned. This would be DOE funded with additional effort for K-12 understanding deep underground science. Dr. Heather Wilson said this would add to what is already well established at Sanford Lab and expand it to more students. Long term if South Dakota is chosen, the science that would be able to be done through this is amazing; this is over a \$40M science project and she said she thinks it is a big deal.

Mr. Headley said Mr. Todd Kenner, president of RESPEC, and his group have already reached out to Sanford Lab. Dr. Apaza said they have met twice and are in the process of helping to write the E&O portion of the proposal.

Dr. Heather Wilson said NIOSH is the part of the Center for Disease Control (CDC) that does research on safety and health. She said there is an element of research for safety and health in mining and NIOSH does not have a place for deep underground occupational safety and health research. To attract other researchers and universities to Sanford Lab also, SDSM&T has put a proposal together to request establishing a station here. She said it could raise the national prominence of this site beyond just DUNE to mine safety and health, deep underground ventilation, deep underground communication systems, etc. She said this would get more researchers to think about Sanford Lab to accomplish science. She concluded that she and Dr. Roberts will set up a meeting with the CDC to get it moving. Chairperson Peterson and the board members thanked Dr. Heather Wilson for her continued effort helping the Sanford Lab.

Mr. Dykhouse thanked the staff for the continued outreach across the state and said he was impressed with the SLHVC numbers. He said a big part of the mission is to let the citizens of South Dakota know that their investment is paying off.

Ms. Lebrun said it was a good meeting and there is forward progress at every meeting and it is appreciated. She said the staff is doing a great job and thanked Mr. Headley for putting all this together.

Mr. Christen said this has been a very informative meeting, lots of things have been accomplished and congratulated the staff. He said the future looks bright and said he was amazed at the SLHVC numbers as well. He said the SDSTA has the board support for underground work for ongoing experiments and fundraising.

Mr. Wheeler said this is the first time he has not been to a regular board meeting in person and he apologized. He complimented the staff and said the Ross Shaft accomplishments have been outstanding. Lastly, he thanked the E&O staff for the great work and said he loved the fact that they are focusing on the right things.

Mr. Engel thanked the board for the opportunity and said he appreciates the work.

Mr. Headley thanked Administrative Services Manager Ms. Mandy Knight for logistics of the meeting and he said he enjoys the opportunity to tell the board about the great work the team is doing. He said this is an amazing group that makes it happen each day, does it safely and is making the entire operation look really good and ready for the future. He thanked the Board for advocating for the Sanford Lab.

Chairperson Peterson said it is a privilege to work with Sanford Lab. He shared a comment that a friend made and said his friend envied Chairperson Peterson because of his involvement in something that is interesting and different from his career as an accountant. Chairperson Peterson said it is a great opportunity to continue to understand the scientific research that is going on and appreciates the work being done.

## **ITEM 16. ADJOURN**

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

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

**Meeting adjourned at 10:55 AM.**

**South Dakota Science and Technology Authority Board of Directors**  
**Special Telephonic Meeting Minutes**  
**Thursday, April 27, 2017**  
**Lead, South Dakota**

The Board of Directors of the South Dakota Science and Technology Authority (SDSTA) convened at 11 A.M. Mountain Time (MT) on Thursday, April 27, 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 Governor's Office of Economic Development, 711 East Wells Avenue, Pierre, South Dakota.

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

Dr. Ani Aprahamian  
Mr. Paul Christen  
Vice-Chairperson Dana Dykhouse  
Secretary/Treasurer Patricia Lebrun  
Chairperson Casey Peterson  
Vice-Chairperson Ron Wheeler  
Dr. Robert Wilson

**MEMBERS OF THE BOARD ABSENT**

Dr. Heather Wilson

**SDSTA STAFF IN ATTENDANCE**

Mr. Tim Engel, Legal Counsel (by phone)  
Mr. Mike Headley, Executive Director  
Ms. Sharon Hemmingson, Business Services and Contracts Manager  
Ms. Mandy Knight, Administrative Services Manager

**OTHERS IN ATTENDANCE**

Mr. Al Van Zee, Black Hills Pioneer

**ITEM 1. CALL TO ORDER**

Chair Peterson called the meeting to order at 11 A.M. (MT). All members were present by roll call except Dr. Heather Wilson.

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

**ITEM 2. APPROVE AGENDA**

Chair Peterson asked for a motion to approve the agenda.

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

**ITEM 3. APPROVE BASIC ORDERING AGREEMENT (BOA)**

Chair Peterson asked SDSTA Executive Director Mike Headley to discuss the BOA. Mr. Headley said the SDSTA has been working with Fermilab for several months to get project plans in place for a series of projects that fall into two categories: 1) the Sanford Underground Research Facility (SURF) Reliability Projects and 2) Projects under the CD-3a approval received by the Department of Energy (DOE). In total, these projects represent additional site preparation activity that need to be completed to

support construction as the Construction Manager/General Contractor (CMGC) comes on board. He said the BOA is like a task order contract that provides the terms and conditions by which Fermi will award individual task orders—one for each project. Mr. Headley said approval today is approving the framework contract that provides the terms and conditions and cost ceiling at approximately \$19M. The cost ceiling amount is the sum of engineering estimates for each of the individual projects or tasks. He said SURF Reliability Projects include the following: Oro Hondo Fan Refurbishment, Refuge Chamber Capacity Increase at the 4850L, Ross Hoist Motor Rehabilitation, Hoist Variable Speed Drives, Hoist Bearings and Bushings, Ross Hoist Brakes and Clutches, Ross Skip Replacement and Ross Cage Replacement. Mr. Headley said beyond these projects are projects under the CD-3a approval (LBNF construction approval by DOE) that relate to the rehabilitation of some of the underground drifts or pathways that are used as part of the SDSTA ventilation plan for LBNF (4850L Ventilation Rehabilitation, 3650L Ventilation Rehabilitation, Tramway Rehabilitation, Design Support, and Construction Support).

Mr. Headley said the first of the projects coming up this summer, if Congress includes sufficient money in the FY2017 budget currently under consideration, is the Tramway Rehabilitation (repairing portals and bolting the tramway) in preparation for the pipe conveyor project. Funding permitting, this project would start in May and said this is the reason to get the BOA in place soon. Mr. Headley asked if there were any questions.

Dr. Robert Wilson asked if the tramway is only a rehabilitation or if there is also new excavation needed? Mr. Headley replied that toward the north section of the Ellison part of the tramway, there will be a small excavation performed by the CMGC that will complete the pathway through the tramway for the pipe conveyor. To provide safe access, the bolting and cleanup of the remaining tramway will be part of one of the tasks that falls under the BOA.

Dr. Robert Wilson said, as he understands, the cost of the excavation is not included in this BOA and Mr. Headley concurred. Mr. Headley said it is a separate scope and this excavation would not be managed or performed by the SDSTA.

*Dr. Robert Wilson was disconnected at 11:09 A.M.*

In most of the projects there is some level of SDSTA-performed work. The \$19M being discussed is not strictly SDSTA-performed work. It would be a mix of subcontract and SDSTA-Performed work. Business Services and Contracts Manager Ms. Hemmingson said approximately \$10M would be subcontracted work.

Mr. Wheeler asked if the board approves the BOA, would it authorize Mr. Headley to approve the tasks individually? Mr. Headley said he interprets this as giving the SDSTA approval to go forward with the tasks as long as they stay within the ceiling and the terms of the contract. Mr. Engel concurred with Mr. Headley's characterization. Mr. Headley said some of the tasks will exceed \$2.5M in value and Chair Peterson would need to sign those when they come through.

*Dr. Robert Wilson rejoined the meeting at 11:11 A.M.*

Mr. Wheeler asked Mr. Engel in this particular case, since the board is approving the discussed tasks and they are going to be capped by the contract amount, can we approve the BOA and authorize Mr. Headley to sign individual tasks? Mr. Engel said yes. Mr. Wheeler then said he thinks it would simplify this process.

A motion was made by Mr. Wheeler to approve the contract and authorize the executive director to sign the individual contracts as they come up.

Mr. Engel suggested a motion for clarification purposes. A substitute motion was then made.

*Substitute motion by Mr. Wheeler and second by Mr. Dykhouse to authorize the executive director and chairperson in consultation with legal counsel to finalize the terms of the Basic Ordering Agreement between Fermi Research Alliance LLC and SDSTA and for the executive director to sign the contract.*

Dr. Robert Wilson said he heard the motion and then asked why Exhibit B's title refers only to the SURF Reliability Projects when there are two categories described in Exhibit B, the first being the SURF Reliability Projects and the second category being Work in Support of CD-3a Construction? Mr. Headley said that is a fair comment and Ms. Hemmingson made note of the recommended title change for Exhibit B to read "SURF Reliability Projects and Work in Support of CD-3a Construction."

Dr. Robert Wilson then asked where the DOE leased spaced is as opposed to where all this work will be occurring, as described Exhibit B, page 4 in the Environment, Safety and Health section? Mr. Headley explained the leased space area. Mr. Engel added that there is no ambiguity in what DOE leased space is in this context.

Dr. Robert Wilson also pointed out the lettering typo in Exhibit A, Section 6 that there are two "B"s and should instead read "B" then "C."

Ms. Lebrun asked if additional insurance will be needed for these tasks or are these covered under SDSTA insurance? Mr. Engel said these are outside of the Captive in a separate "tower" of policies; the vast majority is commercial insurance. Ms. Lebrun asked who covers the cost? Mr. Headley replied that the cost of the tower is in the indirect rate and the tower was put in place a while back.

Chair Peterson asked if there were any other questions.

*By roll call vote, the substitute motion passed unanimously.*

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

Chair Peterson called for a motion to adjourn and reminded board members the next regularly scheduled board meeting will be held on Thursday, June 22, 2017 at 8:00 A.M. in the Education and Outreach Building.

*Motion by Dr. Aprahamian and second by Mr. Wheeler to adjourn. By roll call vote, the motion passed unanimously.*

Meeting adjourned at 11:28 A.M. (MT) on April 27, 2017.

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

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**Recommended Action:**  
*Informational.*

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

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Attached are:

1. A list of grants and research contracts SDSM&T has with other state colleges and universities.
2. Dr. Jan Puszynski's completed SDSTA Conflict of Interest Waiver.

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**Recommended Action:**

*Motion to grant waiver or decline to grant waiver.*

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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	A00025997	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 Selection	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
State	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
	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 University	\$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 University	\$50,000.00	\$50,000.00	01-Jul-2016	30-Jun-2017	A
	MA1700010	SDBOR FY17 Research and Development Innovation Grants Program	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

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	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 Puszyński	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

**SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

**WAIVER AUTHORIZATION PURSUANT TO SDCL 3-23-3**

A written request for waiver of conflict, dated June \_\_, 2017, was received from Dr. Jan Puszynksi. The request was acted upon by the members of the South Dakota Science and Technology Authority during a meeting held on June 22, 2017.

(Check one)

\_\_\_\_\_ The request for waiver was denied for the following reasons:

\_\_\_\_\_ The request for waiver was authorized for the following reasons:

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. Dr. Puszynksi serves as a non-voting member of the SDSTA Board. None of the transactions, arrangements or relationships disclosed herein involve contracts with SDSTA. None of the transactions are unreasonable or contrary to the public interest.

\_\_\_\_\_ The request for waiver was authorized subject to the following conditions:

Signature of Board Chairperson

\_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

Date mailed to Auditor General: \_\_\_\_\_

**THIS IS A PUBLIC DOCUMENT**

**REQUEST FOR WAIVER**

Date: June 14, 2017

Name of the board member requesting the waiver: Dr. Jan Puszynski

- 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 59, 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

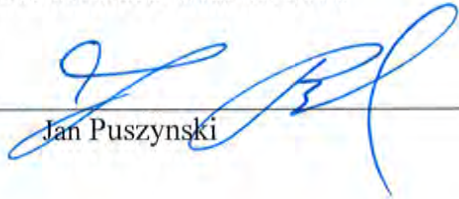
5. The length of time of the contract

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: \_\_\_\_\_

  
Jan Puszynski

**THIS IS A PUBLIC DOCUMENT**

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

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**Recommended Action:**  
*Informational.*

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**Appoint Members to Audit Committee—Chairperson Casey Peterson**

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Attached is the Audit Committee Charter dated June 19, 2014.

7A. Annual appointment of committee members per Charter.

7B. Annual Review of Charter.

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# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **AUDIT COMMITTEE CHARTER**

### **STATEMENT OF MISSION**

The mission of the South Dakota Science and Technology Authority (SDSTA) Audit Committee is to be the pro-active steward for oversight of the financial reporting and disclosure process for SDSTA, including the investigation of claimed breaches of ethics, theft, fraud, embezzlement and reports of whistle-blowers. Our responsibility is to the SDSTA Board of Directors to report independently on the results of the oversight so as to assist in maintaining and enhancing the quality of the financial reporting. The Audit Committee is committed to communication between and among directors, the external auditor and Chief Financial Officer (CFO).

#### **A. The Audit Committee has the following responsibilities and duties:**

##### **1. Appointment**

- Annually be appointed by the SDSTA Board of Directors at their annual meeting in June.
- At least one member will be deemed a “financial expert,” as defined by applicable law and regulation.

##### **2. Review**

- Annually review and update this Charter.
- Annually determine the independence of Audit Committee members through a certification by the SDSTA Board of Director’s Chairperson.
- Review the SDSTA’s annual financial statements and any reports or other financial information submitted to or from any governmental body, or the public, including any certification, report, opinion or review rendered by the external auditor or the SDSTA CFO.
- Review any report or memo or other communication from Federal and State regulators and reviewers, and attend as many entrance and exit conferences as possible.

##### **3. External Auditors/CFO/Independent Counsel/Other Advisors**

- The Audit Committee shall have the independent authority to engage any legal counsel or other advisors it deems necessary to carry out its duties.
- Periodically consult with the external auditor out of the presence of management about internal controls and the fullness and accuracy of the company’s financial statements.
- Make the selection, retention, and review the performance of, the external auditor, considering independence and effectiveness and approve the fees paid to the external auditor as well as the proposed fee. On an annual basis, the Audit Committee should review and discuss with the external auditor all significant relationships the external auditor has with the company to determine the auditor’s independence and consider the appropriateness of the non-audit services prior to their engagement.
- Periodically meet with the CFO on the results of exams, and be available to CFO for appropriate communications at any time they desire the meeting.

##### **4. Financial Reporting Process**

- In consultation with the external auditor, review the integrity of the SDSTA’s financial reporting processes.

# **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY**

## **AUDIT COMMITTEE CHARTER**

- Consider the external auditor's judgments about the quality and appropriateness of the SDSTA's accounting principles, as applied in its financial reports and as promulgated by the Governmental Accounting Standards Board.
- Consider and forward to the SDSTA Board of Directors, if appropriate, recommendations for major changes to the SDSTA's auditing and accounting principles and practices as suggested by the external auditor, management or the CFO.
- Establish regular and separate systems of reporting to the Audit Committee by management and the external auditor regarding any significant judgments made in management's preparation of the financial statements and the Audit Committee's view of each as to appropriateness of such judgments.
- Following completion of the annual audit, review separately with management and the external auditor any significant difficulties encountered during the course of the audit, including any restrictions on the scope of work, or access to required information.
- Review and resolve any significant disagreement among management and the external auditor in connection with the preparation of the financial statements. Review in detail the passed audit adjustments and the materiality levels used by the external auditor, and the impact of Management's estimates used in the financial statement preparation.
- Review with the external auditor and management the extent to which changes or improvements in financial or accounting practices, as approved by the Audit Committee in prior reports or meetings, have been implemented.

### **5. Ethical and Legal Compliance**

- Establish, review and update periodically a Conflict of Interest Policy and ensure that management has established a system to enforce this Policy.
- Review management's monitoring of compliance with the SDSTA's Conflict of Interest Policy, and verify that management has the proper review system in place to ensure that financial statements, reports, and other financial information disseminated to governmental organizations, and the public, satisfy legal requirements.
- Review with SDSTA's retained legal counsel any legal matter that could have a significant impact on the SDSTA's financial statements.
- Periodically review individual committee member education and obtain resources, seminars and materials to keep the level of member's education current.
- Perform any other activities consistent with this Charter, the SDSTA's By-Laws and governing law, as the Audit Committee or the SDSTA Board of Directors deems necessary or appropriate.

### **6. Reporting**

In order to facilitate the proper execution of its duties and responsibilities, the Audit Committee shall conduct its reviews and investigations in a confidential manner. The Audit Committee shall report to the SDSTA Board the results of the Financial Reporting Process, consultations with External Auditors, the CFO or other Advisors, or any other issues they deem important for the SDSTA Board to meet its responsibilities. These reports shall include, but not be limited to, the results of the annual external audit or any internal audit on financial reports or compliance (including difficulties or disagreements encountered, if any, past

## **SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY AUDIT COMMITTEE CHARTER**

adjustments, materiality defined by the auditor, any legal matter having a material impact on the report, management letter comments, etc.), the integrity of the financial reporting system, the appropriateness of the accounting principles applied to the financial reports, the status of internal controls, any suggested change to any of the above systems the Audit Committee thinks should be made, any significant report or communication from any other matter that the Audit Committee deems critical information needed by the SDSTA Board. To the extent permitted by applicable law, the Audit Committee's reports to the Board of Directors shall be delivered in closed session.

The Audit Committee shall strive to provide the Board with the information it needs to manage the reporting and accounting for the SDSTA as well as utilize the reports to manage all of the other risks it faces. These reports will be made when information is received and available. The Annual Schedule below outlines some of the reporting dates anticipated.

### **7. Budget Process**

The Audit Committee will meet with the CFO in March to establish the annual budget for the Audit Committee to cover costs for audit fees, legal fees, consulting fees, continuing education travel and costs and miscellaneous costs.

### **B. Annual Schedule**

The Audit Committee will meet at its discretion but the following is a guideline for business to be conducted during the year:

December-January – Meet with external auditors to discuss preliminary audit findings, letters to management, passed adjustments, materiality, management estimates, and quality and appropriateness of accounting principles.

March-June – Present audit findings, letter of comments and other appropriate information to the SDSTA's Board of Directors at SDSTA annual meeting. Meet to update issues on hiring other outside auditors for review, as deemed necessary, of such areas as EDP, compliance, etc.

September – Request proposal for external audit. Meet with CFO.

October/November/December – Meet with CFO to review any issues regarding the audit. Meet to engage external financial auditor on entrance conference. Review all SDSTA regulators' reports (State and/or Federal). Certify as to committee member's independence.

### **C. Limitations on the Committee's Role:**

While the Audit Committee has the responsibilities and powers as stated above, it is not the Committee's duty to audit the SDSTA's financial statements or to determine that the SDSTA's financial statements are complete and accurate in accordance with generally accepted accounting principles (GAAP), as promulgated by the Governmental Accounting Standards Board. These are the responsibilities of management and the independent auditors.

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**Financial Report—Mr. Mike Headley**

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Financial Report:

8A. Financial Summaries for May 2017, attached. They can also be found in Item 9A Report from Executive Director (SDSTA Quarterly Update).

8B. FY2018 Budget, attached.

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**Recommended Action:**

*8A. Motion to accept the Financial Report as presented.*

*8B. Motion to approve FY 2018 Budget.*

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## FINANCIAL SUMMARIES AS OF MAY 31, 2017

REPORT DATE 06/08/17

SOUTH DAKOTA SCIENCE &amp; TECHNOLOGY

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DIVISION: ALL

## BALANCE SHEET

## ASSETS

	AS OF 05/31/17
<hr/>	
CURRENT ASSETS	
First Interstate Checking	\$ 1,495,058.16
First Interstate Other	17,201.34
	-----
Total in Local Checking	1,512,259.50
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	475,512.97
SD Treas: Experiments	2,382,312.84
	-----
Total with SD Treasurer	12,118,042.24
Billed A/R	1,737,669.14
Unbilled A/R	2,917.40
Other A/R	274,036.77
Inventory - Supplies	2,408,322.74
Inventory - Warehouse	33,740.04
Other Current Assets	614,155.73
	-----
Total Current Assets	18,701,143.56
FIXED ASSETS	
Land, Underground & Other	12,398,635.03
Bldgs & Infrastructure	9,122,537.68
Improvements	63,074,266.88
Computer Equipment	434,783.19
Equipment & Fixtures	10,580,972.55
Accum Depr & Amort	(12,715,169.56)
	-----
Total Fixed Assets	82,896,025.77
OTHER ASSETS	
Work in Process	4,703,052.12
Equipment - Capital Lease	221,912.22
Pension Deferred Outflows	6,287,854.00
Xenon Purchased	1,606,663.11
	-----
Total Other Assets	12,819,481.45
	=====
TOTAL ASSETS	\$ 114,416,650.78
	=====

DIVISION: ALL

## BALANCE SHEET

## LIABILITIES &amp; EQUITY

AS OF  
05/31/17

## CURRENT LIABILITIES

Accounts Payable	\$	758,790.77
Other Payables		4,308.20
		-----
Total Accounts Payable		763,098.97
Accrued Payroll Liab		1,010,502.03
		-----
Total Current Liabilities		1,773,601.00

## OTHER LIABILITIES

LT Accrued EB/Lease		221,912.22
LT Xenon Notes Payable		4,000,000.00
Pension Deferred Inflows		3,184,802.00
		-----
Total Other Liabilities		7,406,714.22

## EQUITY

Restricted: Indemnificati		7,500,000.00
Restricted: Mine Closure		1,398,522.89
Restricted: Sanford Gift2		475,512.97
Restricted: Pension		3,103,052.00
Restricted: Experim. Int.		2,382,312.84
		-----
Total Restricted Funds		14,859,400.70
Investment in Gen FA		82,896,025.77
Unrestricted Funds		7,480,909.09
		-----
Total Equity		105,236,335.56

## TOTAL LIABILITIES &amp; EQUITY

=====

\$ 114,416,650.78

=====

ALL STATEMENT OF INCOME  
FOR THE PERIOD ENDING 05/31/17

	YR-TO-DATE
	-----
REVENUE	
DOE Subcontracts	\$ 23,362,682.76
NSF/NASA Subcontracts	20,790.79
State Revenue	14,033.68
Contributions & Donations	125,000.00
Checking Interest	1,065.74
Interest Income	125,415.92
	-----
TOTAL REVENUE	23,648,988.89
DIRECT COSTS	
Direct Labor	6,743,684.93
ERT Labor	19,422.00
Board of Directors	8,088.29
Capital Outlay >\$5K	574,651.00
Contractual Svcs	5,065,066.39
Inventory	196,403.01
Supplies	1,465,285.62
Travel - Domestic	57,075.45
Travel - Foreign	51,587.49
Utilities	1,977,771.06
Other Direct Costs	187,337.16
Unallow/Unbill Costs	321,094.82
	-----
TOTAL DIRECT COSTS	16,667,467.22
INDIRECT COSTS	
Fringe Benefits	3,807,664.14
Overhead	4,661,678.50
	-----
TOTAL INDIRECT COSTS	8,469,342.64
	-----
GROSS PROFIT FROM OPERATIONS	(1,487,820.97)
	-----
OTHER INCOME	
Water Treatment	133,638.23
Miscellaneous Income	127,438.11
Other Operating Income	2,883.02
	-----
TOTAL OTHER INCOME	263,959.36
OTHER EXPENSES	
Reclass Incr Net Assets	(1,628,449.05)
	-----
TOTAL OTHER EXPENSES	(1,628,449.05)
	=====
NET INCOME/LOSS ( )	\$ 404,587.44
	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## ASSETS

	AS OF 05/31/17	AS OF 05/31/16	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 1,495,058.16	\$ 463,966.27	\$ 1,031,091.89	222.23%
First Interstate Other	17,201.34	27,633.13	(10,431.79)	-37.75%
	-----	-----	-----	-----
Total in Local Checking	1,512,259.50	491,599.40	1,020,660.10	207.62%
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	-	111,945.35	(111,945.35)	-100.00%
SD Treas: Sanford Gift #2	475,512.97	2,103,659.97	(1,628,147.00)	-77.40%
SD Treas: Experiments	2,382,312.84	2,357,275.00	25,037.84	1.06%
	-----	-----	-----	-----
Total with SD Treasurer	12,118,042.24	13,621,071.99	(1,503,029.75)	-11.03%
Billed A/R	1,737,669.14	3,396,162.87	(1,658,493.73)	-48.83%
Unbilled A/R	2,917.40	(3,204.48)	6,121.88	191.04%
Other A/R	274,036.77	148,972.54	125,064.23	83.95%
Inventory - Supplies	2,408,322.74	2,473,622.74	(65,300.00)	-2.64%
Inventory - Warehouse	33,740.04	368,921.81	(335,181.77)	-90.85%
Other Current Assets	614,155.73	515,923.90	98,231.83	19.04%
	-----	-----	-----	-----
Total Current Assets	18,701,143.56	21,013,070.77	(2,311,927.21)	-11.00%
<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	434,783.19	455,888.25	(21,105.06)	-4.63%
Equipment & Fixtures	10,580,972.55	10,187,773.06	393,199.49	3.86%
Accum Depr & Amort	(12,715,169.56)	(10,800,242.04)	(1,914,927.52)	17.73%
	-----	-----	-----	-----
Total Fixed Assets	82,896,025.77	85,681,108.77	(2,785,083.00)	-3.25%
<b>OTHER ASSETS</b>				
Work in Process	4,703,052.12	5,519,877.65	(816,825.53)	-14.80%
Equipment - Capital Lease	221,912.22	359,206.46	(137,294.24)	-38.22%
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	12,819,481.45	15,555,562.11	(2,736,080.66)	-17.59%
<b>TOTAL ASSETS</b>				
	=====	=====	=====	=====
	\$ 114,416,650.78	\$ 122,249,741.65	\$ (7,833,090.87)	-6.41%
	=====	=====	=====	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 05/31/17	AS OF 05/31/16	\$ CHANGE	% CHANGE
<hr/>				
CURRENT LIABILITIES				
Accounts Payable	\$ 758,790.77	\$ 1,898,139.69	\$ (1,139,348.92)	-60.02%
Other Payables	4,308.20	27,788.24	(23,480.04)	-84.50%
	-----	-----	-----	-----
Total Accounts Payable	763,098.97	1,925,927.93	(1,162,828.96)	-60.38%
Accrued Payroll Liab	1,010,502.03	808,428.51	202,073.52	25.00%
	-----	-----	-----	-----
Total Current Liabilities	1,773,601.00	2,734,356.44	(960,755.44)	-35.14%
 OTHER LIABILITIES				
LT Accrued EB/Lease	221,912.22	359,206.46	(137,294.24)	-38.22%
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	7,406,714.22	6,771,579.46	635,134.76	9.38%
	-----	-----	-----	-----
TOTAL LIABILITIES	9,180,315.22	9,505,935.90	(325,620.68)	-3.43%
 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	-	111,945.35	(111,945.35)	-100.00%
Restricted: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
Restricted: Sanford Gift2	475,512.97	1,969,160.00	(1,493,647.03)	-75.85%
Restricted: Pension	3,103,052.00	2,764,105.00	338,947.00	12.26%
Restricted: Experim. Int.	2,382,312.84	2,357,275.00	25,037.84	1.06%
	-----	-----	-----	-----
Total Restricted Funds	14,859,400.70	18,582,406.53	(3,723,005.83)	-20.04%
Investment in Gen FA	82,896,025.77	85,681,108.77	(2,785,083.00)	-3.25%
Unrestricted Funds	7,480,909.09	8,480,290.45	(999,381.36)	-11.78%
	-----	-----	-----	-----
TOTAL EQUITY	105,236,335.56	112,743,805.75	(7,507,470.19)	-6.66%
 =====				
TOTAL LIABILITIES & EQUITY	\$ 114,416,650.78	\$ 122,249,741.65	\$ (7,833,090.87)	-6.41%
	=====	=====	=====	=====

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 05/31/17

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 23,362,682.76	\$ 21,481,307.40	\$ 1,881,375.36	8.76%
NSF/NASA Subcontracts	20,790.79	6,743.13	14,047.66	208.33%
State Revenue	14,033.68	2,018,700.45	(2,004,666.77)	-99.30%
Contributions & Donations	125,000.00	407,781.62	(282,781.62)	-69.35%
Checking Interest	1,065.74	143.23	922.51	644.08%
Interest Income	125,415.92	103,940.56	21,475.36	20.66%
	-----	-----	-----	-----
TOTAL REVENUE	23,648,988.89	24,018,616.39	(369,627.50)	-1.54%
DIRECT COSTS				
Direct Labor	6,743,684.93	6,632,052.98	111,631.95	1.68%
ERT Labor	19,422.00	30,458.79	(11,036.79)	-36.24%
Board of Directors	8,088.29	10,840.00	(2,751.71)	-25.38%
Capital Outlay >\$5K	574,651.00	135,340.65	439,310.35	324.60%
Contractual Svcs	5,065,066.39	6,599,878.32	(1,534,811.93)	-23.26%
Inventory	196,403.01	265,545.34	(69,142.33)	-26.04%
Supplies	1,465,285.62	1,352,354.35	112,931.27	8.35%
Travel - Domestic	57,075.45	82,116.65	(25,041.20)	-30.49%
Travel - Foreign	51,587.49	39,239.88	12,347.61	31.47%
Utilities	1,977,771.06	2,043,191.72	(65,420.66)	-3.20%
Other Direct Costs	187,337.16	260,960.06	(73,622.90)	-28.21%
Unallow/Unbill Costs	321,094.82	315,401.58	5,693.24	1.81%
	-----	-----	-----	-----
TOTAL DIRECT COSTS	16,667,467.22	17,767,380.32	(1,099,913.10)	-6.19%
INDIRECT COSTS				
Fringe Benefits	3,807,664.14	3,460,084.20	347,579.94	10.05%
Overhead	4,661,678.50	4,033,985.69	627,692.81	15.56%
	-----	-----	-----	-----
TOTAL INDIRECT COSTS	8,469,342.64	7,494,069.89	975,272.75	13.01%
	-----	-----	-----	-----
GROSS PROFIT	(1,487,820.97)	(1,242,833.82)	(244,987.15)	-19.71%
	-----	-----	-----	-----
OTHER INCOME				
Water Treatment	133,638.23	222,314.62	(88,676.39)	-39.89%
Miscellaneous Income	127,438.11	65,025.72	62,412.39	95.98%
Other Operating Income	2,883.02	3,256.65	(373.63)	-11.47%
	-----	-----	-----	-----
TOTAL OTHER INCOME	263,959.36	290,596.99	(26,637.63)	-9.17%
OTHER EXPENSES				
Loss(Gain) on Sale of FA	-	155,509.06	(155,509.06)	-100%
Reclass Incr Net Assets	(1,628,449.05)	(1,449,965.71)	(178,483.34)	12.31%
	-----	-----	-----	-----
TOTAL OTHER EXPENSES	(1,628,449.05)	(1,294,456.65)	(333,992.40)	25.80%
	=====	=====	=====	=====
NET INCOME/LOSS ( )	\$ 404,587.44	\$ 342,219.82	\$ 62,367.62	18.22%
	=====	=====	=====	=====



**South Dakota Science & Technology Authority**  
**Available Resources**  
**5/31/2017**

Cash Total Checking	\$ 1,495,058
Cash With State Treasurer	<u>\$ 12,118,042</u>
Total Cash	\$ 13,613,100
Less: Restricted Funds	
Indemnification/Mine Closure	\$ (8,898,523)
Experiments (Xenon, Interest, Infrastructure)	<u>\$ (2,382,313)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 2,332,264
Plus: Accounts Receivable Billed	\$ 1,737,669
Accounts Receivable Unbilled	\$ 2,917
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (1,773,601)</u>
Available Cash	<u><u>\$ 2,299,249</u></u>

SDSTA Operating Budget Summary FY2017  
Actual vs Budget  
May 2017 & YTD

	May 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	\$18,644.00	\$19,900.00	\$1,256.00	93.69%	\$205,180.00	\$218,900.00	\$13,720.00	93.73%	6.27%
Executive Office	\$9,393.00	\$14,993.00	\$5,600.00	62.65%	\$172,750.00	\$176,343.00	\$3,593.00	97.96%	2.04%
Science Center E & O	\$10,624.00	\$11,000.00	\$376.00	96.58%	\$45,428.00	\$40,749.00	-\$4,679.00	111.48%	-11.48%
Science Liaison	\$528.00	\$0.00	-\$528.00	100.0%	-\$164.00	\$0.00	\$164.00	0.00%	0.00%
Sanf.L.Visitor C. (Director)	\$3,030.00	\$4,518.00	\$1,488.00	67.07%	\$63,887.00	\$69,692.00	\$5,805.00	91.67%	8.33%
Subtotal	\$42,219.00	\$50,411.00	\$8,192.00	83.75%	\$487,081.00	\$505,684.00	\$18,603.00	96.32%	3.68%
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.	\$29,845.00	\$30,000.00	\$155.00	99.48%	\$1,289,773.00	\$1,345,000.00	\$55,227.00	95.89%	4.11%
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	\$4,076.00	\$5,000.00	\$924.00	81.52%	\$102,628.00	\$184,167.00	\$81,539.00	55.73%	44.27%
Fermi P.O.#631450 Engin. Services	\$21,781.00	\$25,362.00	\$3,581.00	85.88%	\$88,259.00	\$113,426.00	\$25,167.00	77.81%	22.19%
Fermi C#629760 Bridge OPS	\$888,206.00	\$979,350.00	\$91,144.00	90.69%	\$7,420,686.00	\$7,937,233.00	\$516,547.00	93.49%	6.51%
Fermi C#630223 Ross Rehab	\$312,723.00	\$478,634.00	\$165,911.00	65.34%	\$2,298,379.00	\$2,620,998.00	\$322,619.00	87.69%	12.31%
LBNL LUX C#6973786	\$12,587.00	\$15,303.00	\$2,716.00	82.25%	\$144,848.00	\$170,820.00	\$25,972.00	84.80%	15.20%
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	\$26,950.00	\$33,921.00	\$6,971.00	79.45%	\$821,598.00	\$812,275.00	-\$9,323.00	101.15%	-1.15%
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	\$3,247.00	\$2,500.00	-\$747.00	129.88%	\$13,763.00	\$25,500.00	\$11,737.00	53.97%	46.03%
RESPEC C#02703A	\$0.00	\$500.00	\$500.00	0.0%	\$87,725.00	\$104,824.00	\$17,099.00	83.69%	16.31%
Northwestern Univ. NASA981568	\$0.00	\$200.00	\$200.00	0.0%	\$112.00	\$2,200.00	\$2,088.00	5.09%	94.91%
BHSU-UGCampus Gen.Serv.	\$522.00	\$200.00	-\$322.00	261.0%	\$1,627.00	\$2,200.00	\$573.00	73.95%	26.05%
Sanf.Sci.Ed.Center - GOED Funded	\$0.00	\$30,000.00	\$30,000.00	0.0%	\$335,452.00	\$397,500.00	\$62,048.00	84.39%	15.61%
SDSM&Tech CASPAR Gen.Serv.	\$1,452.00	\$2,666.00	\$1,214.00	54.46%	\$16,520.00	\$24,036.00	\$7,516.00	68.73%	31.27%
* Xilinx, Inc. P.O.#732495	\$228.00	\$240.00	\$12.00	95.0%	\$2,305.00	\$2,760.00	\$455.00	83.51%	16.49%
Subtotal	\$1,301,617.00	\$1,603,876.00	\$302,259.00	81.15%	\$19,594,526.00	\$20,925,367.00	\$1,330,841.00	93.64%	6.36%
Indirect Expenses									
Indirect Charges Personnel	\$115,723.00	\$121,687.00	\$5,964.00	95.10%	\$1,377,994.00	\$1,386,396.00	\$8,402.00	99.39%	0.61%
Indirect Charges Other	\$246,572.00	\$283,935.00	\$37,363.00	86.84%	\$3,911,683.00	\$3,383,618.00	-\$528,065.00	115.61%	-15.61%
Subtotal	\$362,295.00	\$405,622.00	\$43,327.00	89.32%	\$5,289,677.00	\$4,770,014.00	-\$519,663.00	110.89%	-10.89%
Totals	\$1,706,131.00	\$2,059,909.00	\$353,778.00	82.83%	\$25,371,284.00	\$26,201,065.00	\$829,781.00	96.83%	3.17%
* Private Corporation (Commercial Group)									

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

<u>Budget Area</u>	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	\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%	\$ 4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%
TOTAL CAPEX	\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%	\$ 4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%

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

Project #	Project Description	May-17	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 1,526.69	\$ -	\$ (1,526.69)	0.00%
CAP2014-05	CASPAR Experiment Development	\$ 10,608.65	\$ 15,000.00	\$ 4,391.35	70.72%
CAP2016-02	LZ Surface Facility Upgrades	\$ 55,995.62	\$ 68,693.00	\$ 12,697.38	81.52%
CAP2016-03	LZ Xenon Gas	\$ 416.17	\$ 417.00	\$ 0.83	99.80%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ -	\$ -	\$ -	0.00%
CAP2017-01	Ellison Option	\$ 555,000.00	\$ 555,000.00	\$ -	0.00%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
Monthly Totals		\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%

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

Project #	Project Description	May 2017 YTD	FY2017 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 11,703.59	\$ 36,623.00	\$ 24,919.41	31.96%	68.04%
CAP2014-05	CASPAR Experiment Development	\$ 56,639.97	\$ 161,525.00	\$ 104,885.03	35.07%	64.93%
CAP2016-02	LZ Surface Facility Upgrades	\$ 1,176,610.99	\$ 1,086,099.00	\$ (90,511.99)	108.33%	-8.33%
CAP2016-03	LZ Xenon Gas	\$ 2,660,120.85	\$ 4,670,064.00	\$ 2,009,943.15	56.96%	43.04%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ 74,597.84	\$ 77,472.00	\$ 2,874.16	96.29%	3.71%
CAP2017-01	Ellison Option	\$ 555,759.00	\$ 555,000.00	\$ (759.00)	100.14%	-0.14%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 26,379.25	\$ 285,312.00	\$ 258,932.75	9.25%	90.75%
	Totals	\$4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%

Addit. Funding for Water Inflow Project - \$22,000

# SDSTA Operating Budget Summary FY2018

July 2017 - June 2018

		Sources of Revenue			
		Federal Funding	SDSTA Funds	Budget \$ FY17/18	Budget \$ FY16/17
Administration Budgets					Difference
	Board of Directors		\$236,800	\$236,800	\$238,800
	Executive Office		\$181,812	\$181,812	\$180,442
	Science Liaison		\$0	\$0	\$0
***	Science Center E & O		\$76,840	\$76,840	\$76,840
	Sanford Visitor Center		\$42,470	\$42,470	\$58,491
	<b>Total</b>		<b>\$537,922</b>	<b>\$537,922</b>	<b>\$554,573</b>
***	Science C.E & O (Approx. \$6,280 from Chris B. Memorial)				(\$16,651)
<b>Total Authority Operating Budgets</b>		<b>\$0</b>	<b>\$537,922</b>	<b>\$ 537,922</b>	<b>\$554,573</b>
					<b>(\$16,651)</b>
	Federal Funding & State GOED Funding Xilinx	\$24,961,857		\$24,961,857	\$34,568,722
	CAPEX Budget 7/2017 - 6/2018 Additional Approval Beyond Carryover		\$4,027,602	\$ 5,747,905 Includes carry over	\$7,042,796
					\$ (1,294,891)
					Total for year
	<b>Total for Approval</b>	<b>\$24,961,857</b>	<b>\$4,565,524</b>	<b>\$ 31,247,684</b>	<b>\$42,166,091</b>
					<b>(\$10,918,407)</b>
					<b>Total FTE</b>
	Approximate Carryover CAPEX Projects		\$1,720,303		
	Grand Total with Carryover	\$24,961,857	\$6,285,827	\$31,247,684	
					SDSTA Funds 0.7
					Other & Indirect 124.7
	SDSTA Funds includes funding from GOED/Foundation Xenon				Total FTE 125.4

## SDSTA FY2018 CAPEX Budget

5/27/2016

<u>Proj. Mng</u>	<u>Project #</u>	<u>Project Description</u>	<u>New Proj.\$'s</u>	<u>Estimated Carry Over</u>		<u>Total Proj. \$'s</u>
				<u>Proj.\$'s</u>		
M. Headley	CAP2014-05	CASPAR Experiment Development		\$ 104,219	\$	104,219
M. Headley	CAP2014-01	Sanford Visitor Center Design/Constr. Exhibit		\$ 2,696	\$	2,696
M.Headley	CAP2016-02	LZ Facility Upgrades		\$ 225,914	\$	225,914
M. Headley	CAP2016-03	LZ - Xenon Gas	\$ 4,027,602	\$ 1,148,541	\$	5,176,143
M.Headley	CAP2017-02	Ellison Asbestos Abatement		\$ 238,933	\$	238,933
		TOTAL ALL PROJECTS	\$ 4,027,602	\$ 1,720,303	\$	5,747,905
*		Total Sanford Underground Infrastructure	\$ -	\$ 343,152	\$	343,152
**		Total Sanford Gift #2 Permitted Purposes	\$ -	\$ 2,696	\$	2,696
***		LZ Projects	\$ 4,027,602	\$ 1,374,455	\$	5,402,057
		Total FY16 Budget	\$ 4,027,602	\$ 1,720,303	\$	5,747,905
*		Sanford Gift#2				
**		Fully Funded by Sanford Gift#2 Carry Over from FY16				
***		GOED and Foundation Funding				

SDSTA  
FY2018 Budget

<u>Funding Source</u>	<u>P.O/Subc.</u>	<u>FY18 Amount</u>
LBNL LUX/Zeplin Operat.Supp	LBNL Subcontract	\$ 43,145
LBNL LUX/Zeplin Eng. Suppo	7255146	1,425,322
LBNL LUX/Zeplin UG Constr.	LBNL Subcontract	636,796
SIGMA-V	LBNL Subcontract	78,547
Fermi (SURF OPS Services)	629760	14,602,380
Fermi Ross Rehab	630223	2,429,648
Fermi Engineer Supp	631450	414,659
Fermi Ross DUNE Support	Fermi Subcontract	1,789,754
Fermi Leased Space	Fermi Subcontract	5,409
Fermi Reliabilty Projects	Fermi Subcontracts	3,307,927
SDSM&Tech. - CASPAR	PHY-1615197	40,300
Oak Ridge N.L. MJD	144149	37,800
Respec	02703A Research	21,541
Great Plains Educ. Found.	Letter Agreement	125,000
Xilinx	735935	3,629
Totals		<u>\$ 24,961,857</u>



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

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The Executive Director's Report includes the following:

- 9A. SDSTA Quarterly Update—May monthly report attached (financial summaries are also located under Item 8A Financial Statements).
- 9B. South Dakota National Guard Facility Project Update (presentation by Mr. Dan Regan, Surface Foreman)
- 9C. E&O Update (presentation by Dr. June Apaza, E&O Director)

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**Recommended Action:**

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

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# **May Monthly Report**

*Submitted by Mike Headley*

*SDSTA Executive Director*

*Sanford Underground Research Facility Laboratory Director*

*June 14, 2017*



## **Science**

- The Conference on Science at Sanford Underground Research Facility (SURF) was held at South Dakota School of Mines and Technology (SDSM&T) May 13-15, followed by a Low-Background Workshop May 15-16. SURF presentations were given by Underground Access Director Bryce Pietzyk, Research Scientist Markus Horn and Science Director Jaret Heise. The conference was attended by 118 people, with 26 participants taking advantage of the underground tours hosted by Sanford Lab.
- Jaret participated in a Research and Commercialization Council meeting to identify projects to receive state research center funding. One group is hoping to leverage Sanford Lab microorganisms.
- Sanford Lab hosted the Director of the Canfranc Underground Laboratory, who visited the 4850L and presented a status update on the Spanish facility.
- Two Science interns started their summer program in early May and will nominally wrap-up July 14.
- Interruptions: A power blip due to a storm affected the Davis Campus facility air compressor and may have contributed to the failure of a motion sensor that triggers entryway lighting; Davis Campus differential pressure changed slightly when an exhaust duct cover came free (a more permanent cover was installed). A pressure regulator on the Davis Campus domestic water line failed and was replaced.

## **Large Underground Xenon—LUX**

- A few remaining decommissioning items have yet to be coordinated, including the disposition of some calibration sources, the removal of hoists and mothballing the water purification system.

## **MAJORANA DEMONSTRATOR—MJD**

- Regular activities continue including detector module calibrations and minor data acquisition work. Flow rates were refined on various purge systems and work was performed on the shield seals.
- Electroforming decommissioning continues at the Ross Campus, including further disassembly and packing of bath hardware, transportation of power supplies for surface storage as well as initial preparations to remove the water purification system. At the Davis Campus, electronics from the Ross Campus were sorted and stored, materials for preparing copper nuggets for the baths were arranged and SDSTA personnel performed special cleaning of the Electroforming Room ceiling vents.
- MJD crew: An average of three onsite people combined for 452 hours during the month. Onsite effort continues to be low during the transition to operations.

## **Low-Background Counting**

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

- The evaporator for the enhanced nitrogen purge system was anchored to floor, and a comprehensive piping and instrumentation diagram is in progress.

### **BHUC Physics Users:**

- Low-background counting (LBC) of LUX and LZ samples in all four operating LBCs was performed with minimal downtime. The next shipment of 48 photomultiplier tubes (PMTs) is expected in early June.
- Both germanium detectors for the LBNL dual-crystal system have now been successfully underground, with the second detector transported in May. Installation is planned for July-August timeframe.
- A follow-up visit was conducted by University of South Dakota (USD) personnel regarding the installation on the “Ge IV” low-background detector. Evaluation by SDSTA personnel continues.
- Personnel associated with the University of North Carolina (UNC) Malbek germanium detector visited the BHUC to advance plans for the installation of that system, including logistics with transport of the lead shielding already at Sanford Lab.

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

- Following significant progress on safety review recommendations, authorization was issued in May for pre-commissioning initial beam startup followed by accelerator ion beam commissioning.
- University of Notre Dame personnel were onsite to assist with first beam production on May 12 as well as commissioning activities with both proton and alpha particle beams up to 500 kiloelectron Volts (keV). Successful transmission through the beamline length was achieved by the end of the month.
- Various improvements were made to accelerator tank seals and computer readout and magnet controls. UPS battery units were installed to allow pumping systems to bridge power blips.

## **LUX-ZEPLIN—LZ**

- The reduced-radon air system was installed and operated successfully and the low-radon clean room construction is wrapping up, with completion expected by mid-June.
- Surface Laboratory inspections and commissioning is to be completed in June, leading to Sanford Lab authorization and beneficial occupancy by LZ. Initial cleaning activities will begin in June.
- Underground infrastructure design updates were compiled for transmission to the design firm.
- The final report from the April Safety Readiness review was received in May.
- Planning continues for LZ collaboration meeting and workshops to be held at Sanford Lab in mid-July.

## **Other Current Research Activities**

### **Geology:**

- SIGMA-V: Iterations continue on the Memorandum of Understanding (MOU), and internally the collaboration is developing the Experiment Planning Statement. Temperature measurements (including infrared images) and mapping of water seepage from cracks, fissures and shear zones were performed in the vicinity of the kISMET site in the 4850L West Drift. There have been discussions with LBNF representatives on possible synergies. Drilling is proposed to begin at Sanford Lab in fall 2017.
- Rock Melt: After operating for approximately three weeks, the second heater test was suspended after sustaining rock melting temperatures for several days. During the melting period, small amounts of Hydrogen Sulfide (H<sub>2</sub>S) and carbon monoxide (CO) gas were measured inside the drill hole. A heater test in a third hole is planned for early June, and in preparation monitoring equipment on the 1700L was re-positioned to the new holes.
- GEOX™: Personnel were onsite in May to clean sonic anemometers installed near the 4850L Ross Campus. The group has two additional air-flow monitors that are available to be installed.

### **Biology:**

- BHSU Biodiversity: Personnel collected water and biofilm samples from the 4850L 17 Ledge area and prepared the samples in the BHUC. Several trips are planned in June in conjunction with the BHSU Research Experience for Undergraduates (REU) program.
- NASA Astrobiology Institute: Personnel from several institutions were onsite in May for a successful trip that included the addition of a new refrigerator/freezer, regular monitoring as well as the removal of the bioreactor experiment (4100L) and some cartridge experiments at various sites (2000L, 4850L).

### **Engineering:**

- Video Gauge/Monitoring: Equipment installation was completed in May, continuing into Fall 2017.
- Reinforced Shotcrete: SDSMT researchers received authorization for the application of shotcrete on a surface rock outcrop that took place in early June. LIDAR monitoring will continue.

## **Underground Access**

### **Ross Shaft**

Sump clean-out continued in May. Work stopped on this activity over the rest of the month to test environmental conditions. Ladders and landings were installed from the 2300L to the 2900L. The 4850L skip pocket was also cleaned out to allow for laser scanning to support the design a new steel structure at the pocket.

### **Yates Shaft**

A total of 176 loads were handled through the shaft in May. Top Down Maintenance (TDM) corrected 315 conditions for the month. Refurbishment continues close to the 2150L in the cage compartments. Air door and water wall inspections also took place at every station in the Yates Shaft.

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

The UMC continued installing 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. Crews also assisted with maintenance work at the Ross 2450L pump room.

## **Facility Infrastructure**

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

The Facility Infrastructure team monitored and assisted with new equipment installation. Quarterly air handling equipment and fire alarm preventive maintenance activities continue with vendors. Crew continued to assist LUX, LZ, CASPAR, and BHUC, as needed. Surface Laboratory remodel, cleanroom expansion and the Radon Reduction Building are near complete with commissioning to take place in early June.

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

The SDSTA completed all seven (7) day, thirty (30) day, and annual (360) day preventative maintenance activities. Continued Boart drill and jackleg repairs, replaced worn components on the Yates cage overwind drum, and participated with the Surface Lab project. In support of our recycling efforts, two and one half tons of material were collected and sent off for recycle. Spring /summer activities began including road maintenance, lawn care and weed control.

### **Dewatering**

Ross Shaft pump repairs continue replacing degrading and leaking portions of the column. The dewatering team assisted with the eight-inch pipe installation in the Ross Shaft for the 2000L water control project. The team is continuing the 100-hp pump installation on the 2600L. Preventative maintenance was performed on pumps and pumping apparatus. Preparations and installation began for the six-inch Yates sump discharge line.

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

At the end of May, the water level in the underground pool was at 5,741 feet. The net gain for the month was 11 feet. Near term plans are to try to increase the average pump rate to 954 gallons per minute from the underground. Modifications to the control system to allow specific operating controls from off site are moving along as planned, limiting the number of off-hour call outs; there were two calls in May. The WWTP has not discharged any water to the sanitary sewer for over 334 days. The water is being recycled through the WWTP. Concrete equipment pads were removed from the unused blower portion of the WWTP to allow room to create a workshop area.

### **Transportation and Mobile Equipment**

The team performed vehicle preventative maintenance actions and repairs to fleet and site vehicles. In addition, the team maintained underground locomotives, support equipment including air compressors, bolter loaders and rail cars. Preparation began for spring and summer equipment needs. State Fleet vehicles were returned to the State Fleet coordinator the end of May. Three leased SDSTA vehicles were placed into service.

## **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. Support continue for a video monitoring experiment being conducted by RESPEC near the No. 4 Winze Wye on the 4850L, and an additional RESPEC project on the 1550L and 1700L. Fiber optic cable and terminations continue to be installed from the Yates Shaft to the Ross Shaft across the 1700L and 4100L to add to the redundant fiber routes in the underground. WWTP support continue as automation opportunities become available.

## **Engineering**

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

Engineering staff participated in several LBNF Conventional Facilities Design and Progress Reviews in May to include the 100% Pre-excavation design collaboration review. The team also hosted LBNF staff on site to review status of ongoing Work Plans as well as developing governing operations protocols during various pre-excavation stages.

Development of the SURF Reliability Projects Master Schedule was completed. An accurate overarching schedule was required to coordinate and synchronize project planning, acquisition and execution activities. This analysis determined that several project execution timelines and methods of execution will need to be adjusted from the present plan to better execute the project scopes.

Work is underway on Requests For Proposals (RFPs) for LBNF Reliability projects targeted for award in Jan 2018 and includes Hoist Variable Speed Drives, Brakes and Clutches, and the Oro Hondo Fan Rehabilitation.

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

Surface Lab Renovation project actual construction wrapped up this month with final utilities hookups. A third-party commissioning agent began work in validating that all installed systems meet contract requirements.

Cleanroom construction in the Surface Lab by separate contract is ongoing and should wrap up next month. The Czech Republic contractors for the radon reduction system completed installation and testing of their equipment. This equipment will provide the low-radon air the cleanroom needs for experiment assembly.

Updates to the underground infrastructure requirements for the Davis Campus Lab are being finalized to transmit to the architect and engineering (A&E) firm under contract to revise design drawings and models prior to soliciting bids for construction. A key item on this list has been developed by SDSTA staff of a 3D model of all Davis Campus rock interfaces to reduce the risk of interference with the walls.

Staff from SDSTA, University of Wisconsin's Physical Sciences Lab (PSL) and Lawrence Berkeley National Lab (LBNL) developed a detailed overview of the vacuum conduits (material selection and mass) within the water tank for background screening potential materials. The development of this overview was important to better

## **Environment, Safety and Health**

### **Environmental Communication**

The South Dakota Department of Environment and Natural Resources (SD DENR) was contacted concerning the status of Sanford Lab's NPDES Discharge Permit renewal and its changes, if any, on Whitewood and Gold Run Creek's biological monitoring. SD DENR has indicated that the new permit may reduce sampling and modify habitat collection data. This is important because biological monitoring is scheduled to be performed in late August and could mean changes in sampling, sampling procedures and cost.



## **Environmental Compliance**

**Water**—Waste Water Discharge Summary through May 31, 2017:

- *Total water discharged through outfall 001 since June 5, 2008: 5,949,503,010 gallons*
- *Total Underground water treated since June 5, 2008: 3,513,3762,018 gallons*
- *Total Tailing water treated since June 5, 2008: 2,602,937,205 gallons*
- *Total water discharged to sewer since June 5, 2008: 105,071,348 gallons*

The April Discharge Monitoring Report (DMR) was prepared, signed and loaded into Net DMR. There were no violations.

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

**Air**—Data continues to be collected for stationary emissions sources. The Radon Reduction Building was reviewed and it was determined that no new sources of discharge air were subject to permitting.

### **Solid Waste**

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

Solid and hazardous waste were picked up by Veolia (a qualified vendor). A total of 3,743 pounds of hazardous waste and 145 pounds of solid waste were shipped off-site for treatment.

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

The Section 106 Form and detailed attachments concerning the Tramway repairs were submitted to the various Programmatic Agreement (PA) Signatories and Invited Signatories (primarily the Tribes). No comments have been received thus far. The Signatories and Invited Signatories have 45 days to provide comments. If no comments are received by June 17, the repairs may go ahead as scheduled.

A list of upcoming surface projects was developed for Department of Energy (DOE) review considering Historical Preservation and applicability to the PA. The DOE will determine if Sanford Lab is required to consult with the PA signatories and Invited Signatories.

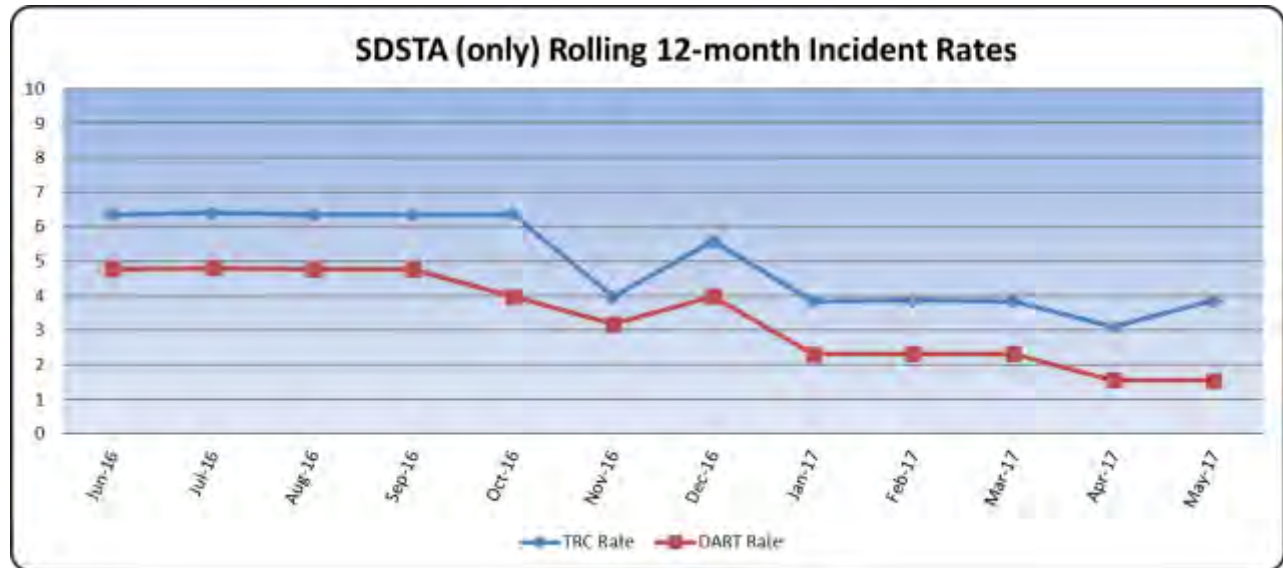
### **Environmental Support Tasks**

The Ellison Asbestos Abatement contractor was selected; planning for work and safety has commenced.

The Confined Space Policy revisions were finalized. The site confined space inventory is being updated and Permit-Required Confined Spaces are being labeled to comply with Occupational Safety & Health Administration (OSHA) Standard 1926.1200 Subpart AA.

Asbestos debris was identified in the Machine Shop core boxes and crates. A contractor was selected to remove the asbestos; work is in progress. Site Specific Training was performed and a Job Hazard Analysis (JHA) was developed and reviewed with the contractor employees.

## 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

### May 2017 DARTS/TRC:

- May 12: TRC ~ Hand caught-in-between at Yates Shaft; stitches required

### May 2017 First Aid Cases:

- No events to report

### May 2017 Category 1 or 2 Events:

- No events to report

### May 2017 Category 3 Events:

- No events to report

### May 2017 Items of Interest:

1. Conducted Safety Committee meeting; voted on April and May Safety Performance Program submission
2. Compiled quarterly W-65 weighs
3. Conducted tornado exercise with the state and City of Lead during Severe Weather Awareness Week
4. Created and delivered Sealed Source Training for CASPAR researchers
5. Hosted and attended yearly Hazardous Waste Operations and Emergency Response (HAZWOPER) refresher training
6. Conducted semi-annual radiation source inventory
7. Distributed Flash Report on hand injuries
8. Hosted SD Office of Risk Management (ORM) monthly visit
9. Conducted water, endotoxin air and bulk sampling for the 5000L Ross sump
10. Hosted Department of Homeland Security for pre-planning discussion of large scale exercise in 2018
11. Finalized Preparations for 82<sup>nd</sup> CST SD Army National Guard and Emergency Response Team exercise to be conducted in June

## Education and Outreach (E&O)

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

SDSTA Cultural and Diversity Coordinator KC Russell has been working on coordinating progress in

completing the recommendations of the Cultural Advisory Committee annual review. The script for the new cultural orientation video has been finalized and videotaping will take place towards the end of June.

KC helped as a guide with many field trips that the E&O Department in May, and will help with the South Dakota Gaining Early Awareness and Readiness for Undergraduates Program (GEARUP) field trips in June.

## K-12 Education and Outreach

**Curriculum units.** Table 1 lists the schools, grades and number of students who completed units in May. Table 2 contains information on the new units that were piloted by teachers this spring.

**Table 1. Curriculum Units (May)**

Unit	School	City	Grade or Course (high school)	Total No. of students
'We are Made of Starstuff'	Baltic	Baltic	Chemistry	9
"May the Force Be With You"	Horace Mann	Rapid City	3	20
	Rapid Valley	Rapid City	3	40
	Westside	Sisseton	3	75
"Seismic Science"	Watertown	Watertown	8	320
"The Search for Dark Matter"	Custer	Custer	8	72
	<b>6 schools</b>			<b>536 students</b>

**Table 2. Curriculum Unit Pilots (Jan–May)**

Unit	School	City	Grade or Course (high school)	Total # of students
"There and Back Again"	Creekside	Spearfish	4	53
	Sturgis	Sturgis	5	9
"Waterworks"	Belle Fourche	Belle Fourche	5	110
	West	Rapid City	8	95
	Pine Ridge	Pine Ridge	9-12	36
"Creature Features"	Robbinsdale	Rapid City	K-1	81
"Between a Rock and a Dark Place"	Black Hawk	Black Hawk	2	23
	Robbinsdale	Rapid City	1	18
	Elm Springs	Wasta	K-2	9
	<b>8 schools</b>			<b>434 students</b>

**Table 3. Classroom or Assembly Presentations**

School/City	Presenter	Grade(s)	# of presentations	Total # of students
Timber Lake / Timber Lake	DT	6-8	4	70
Atall / Union Center	PN	K-8	2	22
Lincoln / Gering, NE	PN	4-6	3	151
Northfield / Gering, NE	PN	4-6	3	132
Geil / Gering, NE	PN	4-6	3	169
Cedar Canyon / Gering, NE	PN	K-4	2	42
Bluffs / Scottsbluff, NE	PN	6	1	20
Gering High / Gering, NE	PN	10-11	1	12
Parker / Parker	JMc	5-6	4	76
Vandenberg / Box Elder	KR	4	5	244
<b>10 schools</b>			<b>28 programs</b>	<b>938 students</b>

JMc = John McEnelly

PN = Peggy Norris

KR = Kathy Rose

DT = Deb Thorp

**Field trips to Sanford Lab.** Eleven groups visited for field trips in May (Vandenberg Elementary (x2) (Box Elder, Grant-Deuel Elementary, Dupree High School, Creekside Elementary (Spearfish), Sturgis Middle School (x3), Chamberlain High, Atall School and Black Hills Catholic Home Schoolers.

**Other K-12 Activities.** 57 teachers are registered for the E&O Department's summer professional development, *Transforming Ordinary into Extraordinary*, which takes place June 12-16. The teachers will visit Sanford Lab on Friday, June 16. In addition to learning about integrating three-dimensional science teaching into their classroom, each teacher will be introduced to four Sanford lab curriculum units. Interest in this topic is clearly high, and the group has received Title II funding to support secondary teachers attending this summer's workshop as well as next year's.

SDSTA Engineering Department's Charles Maupin attended a career fair for three eastern Wyoming elementary schools, speaking to 27 students.

**Undergraduate Activities.** The Sanford Lab intern program began on May 8 and are listed in Table 4. The BHSU Research Experience for Undergraduates (REU) began on May 30. Nine students from the REU program toured the surface and/or underground on May 30 with faculty members from BHSU. The Davis-Bahcall Scholar's program began on June 5.

**Table 4. 2017 SDSTA Summer Interns**

Name	School	Department
Richard Hovdenes	SDSMT	Underground Access
Christel Peters	BHSU	Communications
Randi Seiwald	SDSMT	Underground Access
Miranda Stadel	SDSMT	Science
Daniel Tronstad	SDSMT	Science
Justin Van Keulen	SDSMT	Engineering

**Table 5. Total Impact – May 2017**

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 (4 schools)</b>											
<b>Vandenberg</b>	88	0	0	0	0	4	0	0	0	0	1
<b>Grant-Deuel</b>	11	0	0	0	0	3	0	0	7	0	0
<b>Dupree High</b>	0	0	14	0	0	1	0	0	0	0	1
<b>Creekside</b>	53	0	0	0	0	2	0	3	0	0	0
<b>Sturgis Middle</b>	0	123	0	0	0	12	0	0	0	0	0
<b>Chamberlain</b>	0	0	5	0	0	1	0	0	0	0	0
<b>Atall School</b>	10	4	0	0	0	2	0	2	11	0	0
<b>BH Catholic</b>	26	7	2	0	0	0	0	0	14	0	0
<b>Subtotal</b>	42	2	24	0	0	7	0	0	0	0	1
<b>CURRICULUM UNITS COMPLETED (from Tables 1&amp;2)</b>											
487	487	487	487	487	487	3	0	0	0	0	0
<b>ASSEMBLY PROGRAMS COMPLETED (from Table 3)</b>											
297	297	297	297	297	297	5	0	0	0	0	0
<b>OTHER</b>											
<b>Career Fair</b>	27	0	0	0	0	0	0	0	0	0	0
<b>Intern Program</b>	0	0	0	6	0	0	0	0	0	0	0
<b>REU / BHUC</b>	0	0	0	9	0	1	3	0	0	0	0

<b>Subtotal</b>	27	0	0	15	0	1	3	0	0	0	0
<b>Grand Total</b>	<b>128</b> <b>2</b>	<b>918</b>	<b>69</b>	<b>15</b>	<b>0</b>	<b>85</b>	<b>3</b>	<b>5</b>	<b>32</b>	<b>0</b>	<b>2</b>
<b>Grand Total: 2,411 students, educators and members of the general public</b>											

## **Communications**

Planning for a CASPAR Initial Operations Startup event is ongoing. The date for the event is July 12. Also, planning is taking place for a LBNF Groundbreaking event at Sanford Lab on July 21.

Neutrino Day funding status: Vucurevich Foundation granted \$8,000 for Neutrino Day and Deep Talks, funding confirmed from Fermilab (\$4,400) as well as Black Hills Energy (\$2,500), BHSU (\$2,500), SDSM&T (\$2,500) and Mike Headley and Elizabeth Freer (\$1,000).

Communications Intern Christel Peters began work at Sanford Lab on May 8.

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

- May 11: Deep Talks with Dan Robertson.
- May 11: Hosted Ken Garcia from Notre Dame who is writing “Mining the Invisible.”
- May 12: Attended the SD CEO Women in Business luncheon held in Spearfish.
- May 17: Hosted Keene College geology student on underground tour.
- May 22: Attended the Opening Ceremony at the International Collegiate Programming Conference.
- Upcoming events: Neutrino Day, July 7-8; CASPAR Initial Operations Startup Event, July 12; Eclipse Event, August 20; International Dark Matter Day Event, October 31.

## **Video, Web, Graphics**

- The Sanford Lab newsletter was redesigned; Deep Thoughts is now available only in html (new format allows leverage of new website and longer, more detailed stories).
- The Communications team is working with the Cultural Advisory Committee (CAC) to develop a cultural awareness video. The script was written, edited and CAC approved. Filming will begin in late July.
- A 5-minute video produced by Sanford Lab was shown at the International Computing Conference.
- 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 May Communications Photos are included as Appendix A.

## **News coverage in May**

- [Search is on for elusive particle decay](#), Richard Blaustein, Physicsworld.org
- Discovering Science, by Andrew Shipotofsky, NewsCenter 1 Part 1: [Majorana](#) Parts 2 and 3 [LUX-ZEPLIN](#) and Black Hills State University Underground Campus
- Understanding the Universe Underground, by Taylar Perez, KEVN Black Hills Fox [Understanding the Universe Part 1](#), [Understanding the Universe Part 2](#), [Understanding the Universe Part 3](#)
- [SDSTA Board approves umbrella agreement with Fermi for more work at Sanford Lab](#), by Al Van Zee, Black Hills Pioneer

## **Contracts Status**

**LUX-ZEPLIN (LZ)-Lawrence Berkeley National Lab:** SDSTA was awarded a new subcontract (\$651K) for the Davis Campus Laboratory Construction. A new subcontract for LZ Operations is pending. SDSTA received a modification to its current LUX and LZ Project subcontracts to add incremental funds.

**Professional Staff Services-Fermilab:** Fermilab issued a purchase order revision to add June funding.

**LBNF Design Basic Ordering Agreements-Fermilab:** These subcontracts are in the process of transitioning to Fermilab.

**Ross Shaft Rehabilitation-Fermilab:** Fermilab issued a Supplemental Agreement adding June funding.

**Reliability Projects-Fermilab:** SDSTA submitted its proposal to establish a new Basic Ordering Agreement (BOA) for Reliability Projects. SDSTA is preparing its response to a draft Request for Proposal for the Tramway Rehabilitation project, which would be the first task ordered under this BOA.

**Summary of Contracts Awarded by SDSTA in May:**

Contract#	Contractor/Vendor	Type	Project
2013-32	Pacific Hide and Fur	CO#6	Salvage of Waste Steel from Ross
2016-18	Dean Kurtz Construction	CO#18	LZ Surface Infrastructure
2016-18	Dean Kurtz Construction	CO#19	LZ Surface Infrastructure
2016-18	Dean Kurtz Construction	CO#20	LZ Surface Infrastructure
2017-08	Horsley Specialties, Inc.	Contract	Ellison Asbestos Removal
	TBD	RFI	Oro Hondo Shaft & Impeller
2014-10	CVD Construction Inc.	CO#10	General Services (Surface)
2017-03	Anderson Environmental	CO#1	Remediation Projects
2016-07	Ainsworth Benning	CO#9	Admin & Foundry Re-roofing
2017-20	Adtech Alarms	Contract	VESDA Smoke Detection System
2016-22	Blackmesh	CO#2	Web Hosting Services
2016-18	Dean Kurtz Construction	CO #21	LZ Surface Infrastructure
2015-13	Stone Land Services	CO#6	Property Rights Rsrch, Title Work
2016-18	Dean Kurtz Construction	CO#22	LZ Surface Infrastructure
2017-03	Anderson Environmental	CO#2	Remediation Projects
2017-08	Horsley Specialties, Inc.	CO#1	Ellison Asbestos Removal
2017-21	Infotek Consulting, LLC	Contract	Deltek Cost Point Implementation
2017-19	American Engineering Testing	Contract	Environmental Assessment Phase II

**Purchase Orders (POs):** 154 POs were issued in May totaling **\$198,708.58**

**Warehouse Inventory:** Warehouse inventory on May 31, 2017 totaled **\$212,451.43**.

## **Information Technology**

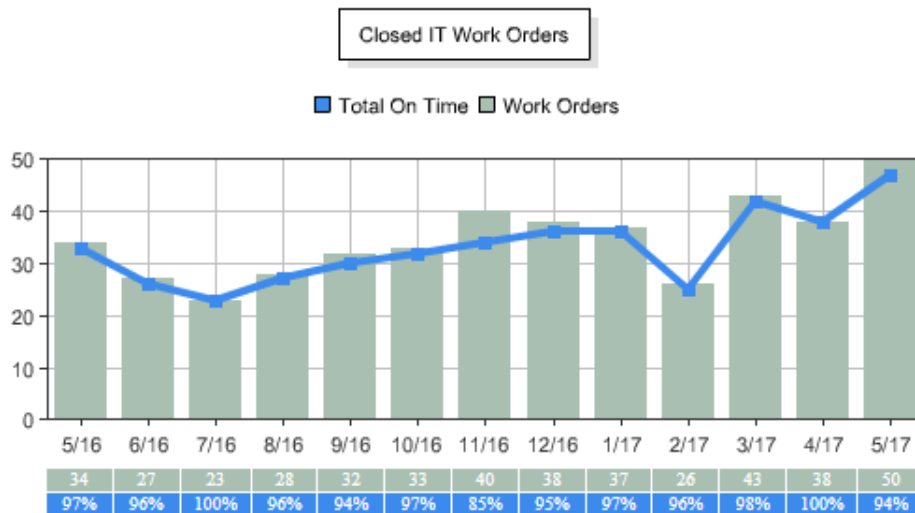
### **Projects**

- Completed laptop setup for interns and deployed.
- Preloaded the manifest for various science groups per their requests.
- Participated in the Learning Management System (LMS) evaluation criteria and proposal review.
- Requested enhancements made to the Daily Precipitation Database.
- Completed Anti-virus upgrades and moved to new server.
- Visited all computers to verify and complete inventory reconciliation and locked down several kiosk type computers as part of the Fermilab audit recommendation.
- Completed reconfiguration of the surface lab switch ports to accommodate Johnson Controls, LZ and Ateko vendor at the Radon Reduction building.
- Expanded the employee directory to include active science groups and uploaded their pictures.
- Began working on quotes for the Administration Building's 1<sup>st</sup> floor vault conference room upgrades.
- Began demonstrations for the Storage Area Network (SAN) replacement project.



## Daily Activities

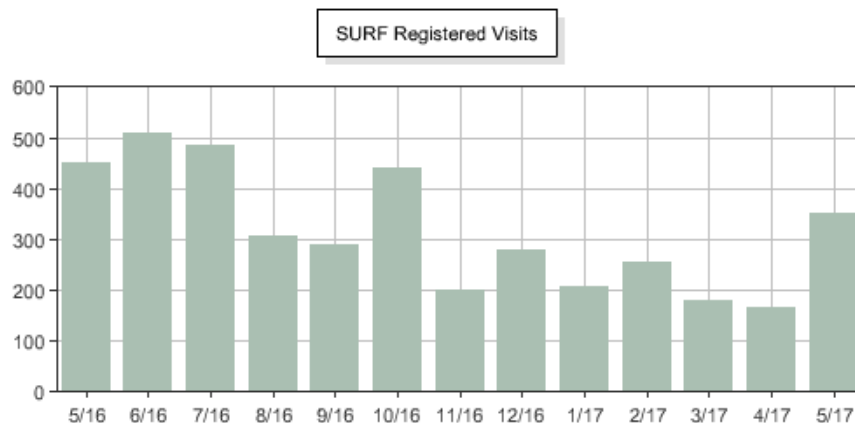
In addition to work order activity, IT monitors and reviews wireless and general network activity and counts, network hardware readiness, VPN Remote Access logs, and establishes new VPN and DocuShare accounts for individuals and user groups, as requested.



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

## May Events

In May, a total of 350 Visitors, Contractors and Users visited the lab; an increase of 185 people from last month. The May Visitor Log Report was submitted electronically to the SD Fusion Center/Homeland Security utilizing the database reporting tool.



Logistical and administrative support were provided for the following events, meetings and reviews in May:

- May 1, 2, 3, 10, 12, 17 & 24: School Visits to Sanford Lab, see E&O Dept report
- May 4: Hazwoper Refresher Training
- May 8-Jul 21: Summer interns on site
- May 9: Planning for FY18 work at SURF Meeting
- May 10: FRA and SDSTA General Counsel Meeting and Tour with SD Dept of Revenue Staff
- May 15-16: SURF Conference at SDSM&T Underground Tour at Sanford Lab
- May 24: Office of Risk Management Underground and Surface Tours
- Apr 26-27: LZ Safety Readiness Review; DSU Honors Students Visit
- May 30: Dr. Aldo Ianni and Guest Visit and Underground Tour; May 31: Army Quality Training for Contract Managers

Planning continues for upcoming meetings and events through July 2017:

- *Jun 15: SD Ag Rural Development Leadership Surface Tour and u/g videoconference; School Administrators Visit and Underground Tour*
- *Jun 22: SDSTA Board of Directors Annual Meeting*
- *Jun 29: SD Office of the Governor Staff Visit and Underground Tour*
- *Jun 27: DOE-FRA-ORM-SDSTA Discussion*
- *Jul 6-9: Fermilab Physics Advisory Committee Meeting*
- *Jul 7-8: Neutrino Day*
- *Jul 9: Davis Bahcall presentations*
- *Jul 11: DOE Paul Bosco Visit and Underground Tour; SDSTA Intern presentations*
- *Jul 12: CASPAR Announcement and Luncheon*
- *Jul 12-14: ESHOC Review*
- *Jul 14: Sanford Lab All Hands Meeting*
- *Jul 17-20: LZ Collaboration Meeting; Jul 21-22: LZ Mock Data Challenge One Kickoff Event*
- *Jul 21: LBNF Groundbreaking*

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. Administrative Assistant Brooke Anderson continues training with the Finance and Procurement Offices to assist with specific duties in each area. In early May, training began with the new receptionist Amelia Pearson.

Planning is advancing for events in July including Neutrino Day, the CASPAR Announcement, the LZ Collaboration Meeting and Workshop and the LBNF Groundbreaking. Copyediting and reviewing content on the new Sanford Laboratory website continues. Organization charts and telephone lists were updated.

May monthly reports for Fermilab and SDSTA were compiled, edited and distributed. Also, the SDSTA Board of Directors held a special telephonic board meeting on April 27 to discuss and approve the Basic Ordering Agreement for reliability/refurbishment and CD-3a tasks associated with the LBNF Project; draft Board Minutes were transcribed and reviewed by legal counsel. It has been placed in a binder in the reception area of the Administration Building and posted on the new [Sanford Lab website](#), as well as the [Boards and Commissions portal](#). New and updated policies and procedures were finalized for approval at the June board meeting; the SDSTA Policies and Procedures Manual is currently being redesigned.

## **Finance and Human Resources**

Included in the Financial Report are the following:

- SDSTA SURF Services FY2017 SPA Curve as of May 2017 (included as Appendix B)
- SDSTA Staffing Plan by Funding Source as of May 2017 (included as Appendix C)
- Financial Summary (included as Appendix D)
  - Balance Sheet as of May 2017
  - Comprehensive Statement of Income May 2017
  - Comparative Balance Sheet – May 2017 vs. May 2016
  - Comparative Statement of Income – May 2017 vs. May 2016
  - Available Resources as of May 2017
  - Operating Budget Summary
  - CAPEX Budget Summary
  - May 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 (FRA) for reimbursement. For May, the invoices totaled \$1,106,393 which is slightly lower than the anticipated reimbursements of \$1,220,312 by \$113,919. Cumulative expenses are at \$9,250,499 which is lower than the budgeted \$9,894,414 by \$643,915.

### **Balance Sheet Items**

Cash in Local Checking—Total on hand at May 31, 2017 was \$1,512,260; down from last month by \$700,503. Funds on hand were necessary to pay employee medical/life/vision insurance due June 1. The balance also contains funds received from federal contracts late in the month on open accounts receivable.

Cash with State Treasurer—Total balance of \$12,118,042. This balance has decreased from last month by \$598,803 as this amount was drawn down during May.

Billed Accounts Receivable (A/R)—Billed A/R represents any open invoices based on contracts from sources such as LBNL, Fermilab, other smaller contracts from other universities and Barrick-Homestake Mining Company. Total is at \$1,737,669; down from last month by \$48,664. Included in the balance are open invoices to LBNL for \$92,408; representing invoices for the Large Underground Xenon (LUX) subcontract and LUX-ZEPLIN (LZ) engineering support. Additional open invoices include \$1,616,671 from Fermilab primarily from the SURF Services subcontract and the Ross Shaft Rehabilitation work. Additionally, there are open receivables for \$9,358 from small university subcontracts, Barrick/Homestake for \$18,693, and \$539 from Xilinx, Inc., the commercial organization that has established an experiment located near the 4850L Davis Campus.

Unbilled A/R—Balance at \$2,917. Unbilled A/R represents items that have not been billed on various contracts. April's balance has increased slightly by \$2,916.

Other A/R—Current balance of \$274,037. This balance represents any Interest Receivable and Miscellaneous Accounts Receivable. The balance increased by \$13,921 which represents the interest accrual for May along with a small noncontract invoice.

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

Inventory Warehouse/Personal Protective Equipment (PPE)—Current balance of \$33,740. This balance represents the warehouse inventory that was purchased by SDSTA prior to federal funding. The balance has decreased from April by \$82 for inventory usage.

Other Current Assets—This listing on the balance sheet represents the balances of both prepaid insurance—\$552,049 and prepaid other—\$62,107. Total balance of \$614,156 is up from last month by \$319,141. This increase represents the renewal of our Worker's Compensation insurance along with the monthly insurance expenses. Changes in prepaid other miscellaneous items are also included.

Fixed Assets—Total of \$82,896,026 (net of depreciation through May 31, 2017). Including depreciation for May the net decrease for fixed assets is \$155,346.

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 \$623,547 to \$4,703,052.

Capital Lease—This balance of \$221,912 represents the deep pump system capital lease. The balance has decreased \$15,459. 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 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 \$114,416,651. This balance is down from last month by \$559,331; which represents the net activity as listed above.

**Accounts Payable**—Our Total Accounts Payable balance of \$763,099 at the end of the month compared to last month has decreased by \$568,464. This decrease is primarily represented by no longer owing Homestake Mining Company for the Ellison Hill Property.

**Accrued Payroll Liabilities**—Current balance of \$1,010,502 has increased by \$30,668 from last month. This represents the net change between earned vacation and vacation taken and other changes in other employee benefit-related liabilities.

**Long Term Accrued Employee Benefit/Lease**—This balance of \$221,912 denotes the liability associated with the capital lease for the deep pump system from AmWest, Inc. This balance has decreased by \$15,459 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 as well as an additional \$1M received in January from the South Dakota State University Foundation and \$1M received in February from the University of South Dakota Foundation. The \$4,000,000 balance is designated for purchasing xenon for experiment use at Sanford Lab.

**Pension Deferred Inflows**—This classification reflects the requirements of GASB Nos. 68 and 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 \$553,255 (from \$9,733,570 to \$9,180,315), which reflects the net activity listed above.

**Total Equity**—Decrease to \$105,236,336 from the previous month \$105,242,413.

**Total Liabilities & Equity**—Decrease to \$114,416,651 from the previous month of \$114,975,982.

### **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 May 2017 is \$23,362,683 (increase from April of \$1,673,068).

**National Science Foundation (NSF)/National Aeronautics & Space Administration (NASA) Subcontracts**—Total revenue for fiscal year 2017 from this funding is \$20,791. 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 April by \$1,815.

**State Revenue**—Year-to-date State Revenue equals \$14,034. \$12,000 was received from the State to fund Davis Bahcall scholars work experience internships from this past summer as well as \$2,034 from a small subcontract from Black Hills State University.

**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 \$125,416. 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 \$16,667,467 for the year. Indirect Costs including fringe benefits are at \$8,469,343. Costs are higher than revenue by \$1,487,821. Other Income is at \$263,959 which represents miscellaneous income received from Xilinx and small amounts from Barrick. Net income through May after Reclass Increase in Net Assets is at \$404,587.

### **Comparative Balance Sheet**

Significant differences include Total in Local Checking which is higher by \$1,020,660 primarily due to receiving funds from contracts in Accounts Receivable late in the month. Total Cash with State Treasurer is lower by \$1,503,030 from this time last year as funds were expended over the 12-month period. Other notable differences exist for Billed A/R which has decreased by \$1,658,494 due to payments being received on various contracts. Inventory—Warehouse which has decreased by \$335,182 for adjusting xenon to Other Assets. Total Fixed Assets have decreased by \$2,785,083 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 \$816,826 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, is 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 \$7,833,091. Total Current Liabilities have decreased by \$960,755 from this time last year. This decrease is primarily due to currently owing less to vendors when comparing the two time frames. Total Other Liabilities have increased by \$635,135 primarily due to Xenon Notes that have increased for the \$2M receipt from South Dakota State University Foundation loan and the University of South Dakota loan. Total Equity has decreased by \$7,507,470 from this time last year. In summary, Total Liabilities & Equity have decreased by \$7,833,091. 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 May 2017 compared to year-to-date May 2016 has decreased by \$369,628. Yet, DOE subcontract revenue has increased by 8.76%. 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 May 2017 compared to this time last year show a combined decrease of \$124,640 (less than 1% decrease). Other Income is slightly lower for the comparative time periods primarily due to treating less of Homestake's water. Net Income/Loss for the comparative time periods shows an increase of \$62,368 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 the items in accounts payable are invoiced on our current federal contracts. \$2,299,249 is available after noting our current obligations. It is also important to note that our accrued payroll liabilities include accrued vacation and sick pay. Therefore, the current report better reflects our available resources compared to current obligations.

### **Operating Budget Analysis**

This report is separated into three sections: SDSTA-funded activities, Federal & State funded activities and Indirect expenses that benefit various activities. Total operating expenses are under budget for May 2017 by \$353,778. Almost all areas are under budget for the month. Year-to-date almost all are under budget as well. 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. Year-to-date figures are under budget by \$829,781.

### **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 \$6,872,095. 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, a small amount of scrap metal funding 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 May 2017, we spent \$623,547 on our CAPEX projects which is lower than the budgeted \$639,110. Year-to-date we have spent \$4,561,811 on these projects.

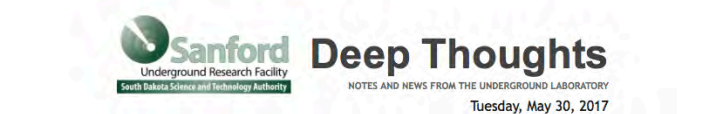
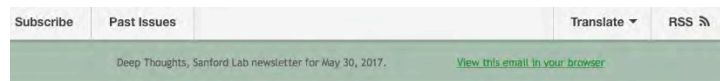
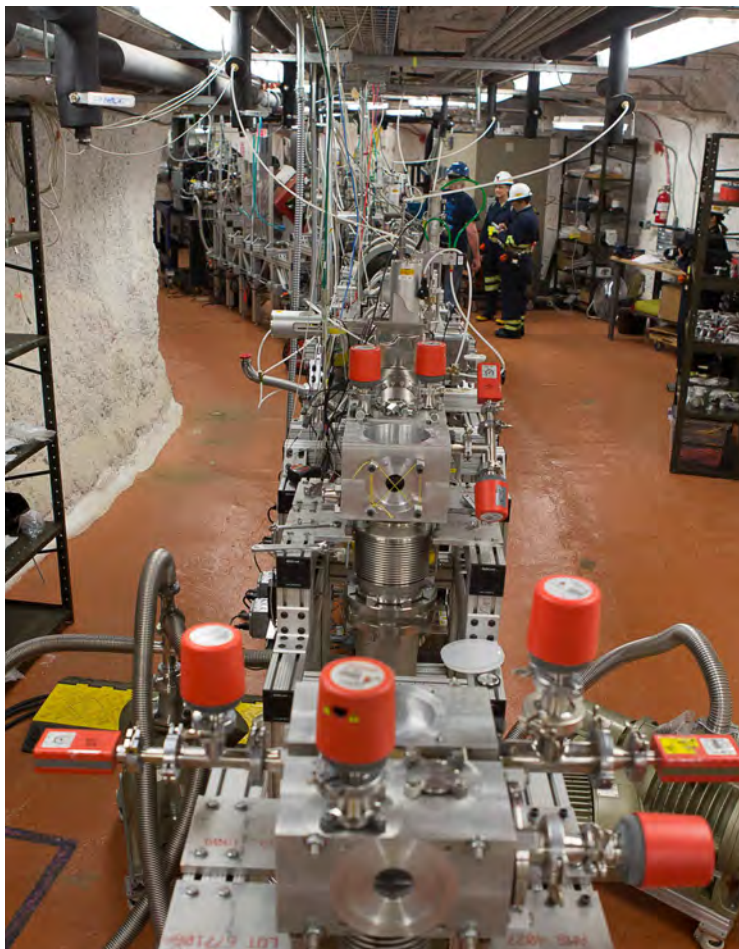
## **Human Resources**

There are currently 126 full time employees (FTEs) and 18 temporary staff, primarily Emergency Response Team members. Temporary staff increased by six FTE due to the summer interns starting employment. Their internships last 10 weeks in various capacities at Sanford Lab. They are funded through SDSTA funds. Information Technology Support Technician James Mitchell started employment May 22. He replaced Brian Jones whom resigned in March. Laboratory Receptionist Amelia Pearson started May 8 with the SDSTA.

## APPENDIX



## Communications Department Photo Appendix A



### Celebrating five years of science discovery in the Davis Campus



Five years ago today, the Davis Campus was dedicated and the Majorana Demonstrator Project and LUX experiments began moving in.

[Read more](#)

### Welcome to a new team member.

James Mitchell was excited to tell his friends and family that he would be coming to work at Sanford Lab in the IT department. "Not many people in East River know what Sanford Lab is and what we do here in Lead," he said.



Mitchell is originally from Crocker, S.D. and attended Lake Area Technical Institute in Watertown. Deb Meyer is his supervisor in the IT department at Sanford Lab. "We're thrilled to have him as a part of the IT team," said Meyer. "He came very highly recommended by past employers and his instructors at Lake Area Tech."

When not working, Mitchell enjoys playing disc golf. He is happy to work in

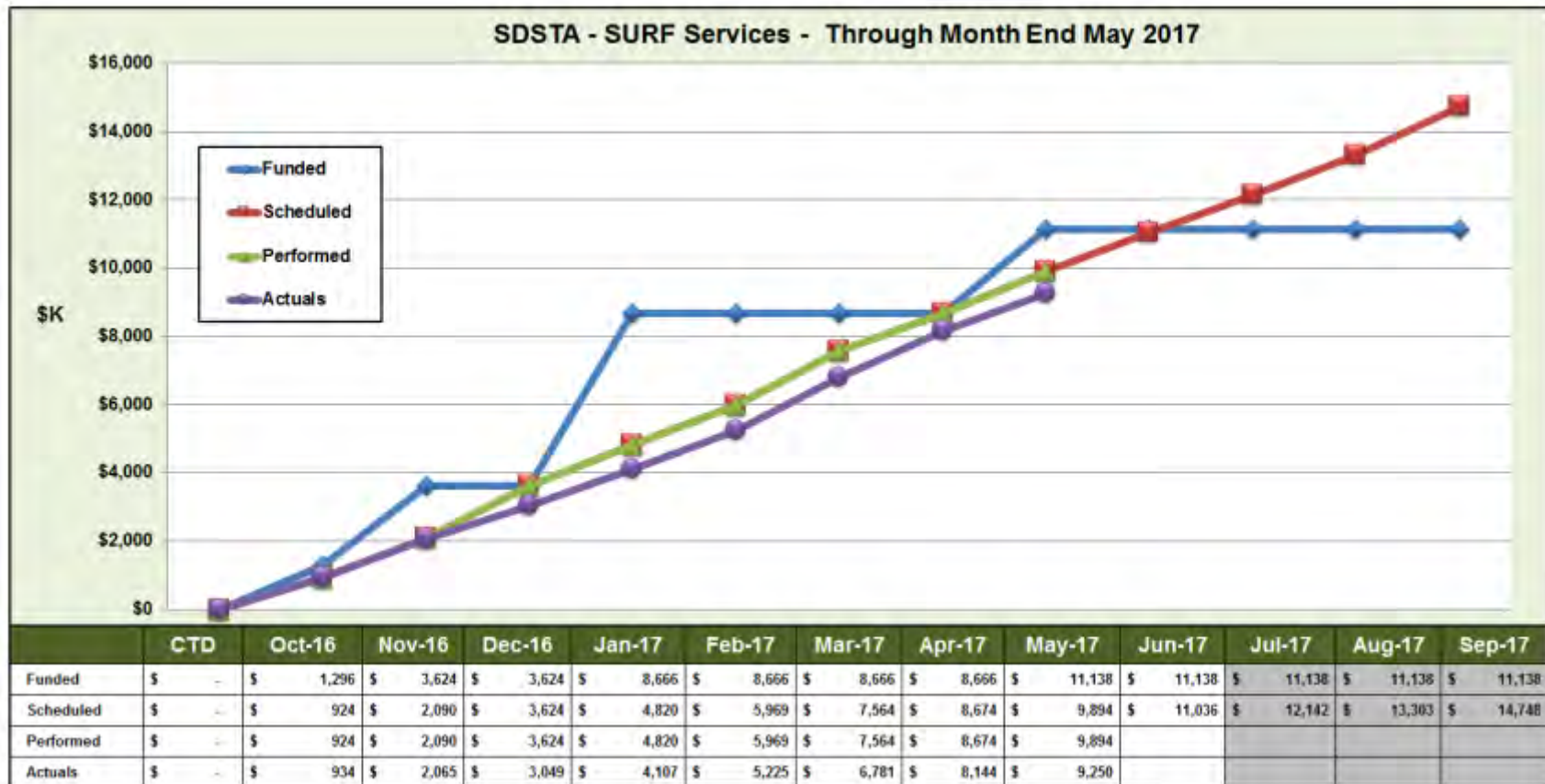
Top left: This is the target end of the CASPAR accelerator.

Top right: The control screen for the CASPAR accelerator includes a video feed pointing at a small piece of quartz located midway through the accelerator. In the top view the lights are on in the room. In the bottom view the light are turned off and the quartz emits a blue light when the beam line is passed through it, which helps the researchers align the beam.

Center: Students build hosts in an activity at the Yates E&O building as Peggy Norris gives helpful instruction.

Right: A new Deep Thoughts format launched on May 30. This online only edition allows more room and greater flexibility for distributing news and updates about the Sanford Lab.

# Finance & HR Department Appendix B



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



## Finance & HR Department Appendix C

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

*Revised: June 8, 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>76.70</b>	<b>77.00</b>	<b>77.15</b>	<b>77.15</b>	<b>77.15</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
ESH	11.75	11.75	11.75	11.75	11.75	11.75	11.75	10.75	10.75	11.40	11.40	11.40
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>4.20</b>	<b>4.20</b>	<b>4.20</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>17.10</b>	<b>17.10</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 May 2017



## Financial Summaries May 2017 - Appendix D

REPORT DATE 06/08/17

SOUTH DAKOTA SCIENCE &amp; TECHNOLOGY

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DIVISION: ALL

BALANCE SHEET

## ASSETS

AS OF  
05/31/17

## CURRENT ASSETS

First Interstate Checking	\$	1,495,058.16
First Interstate Other		17,201.34
		-----
Total in Local Checking		1,512,259.50
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		475,512.97
SD Treas: Experiments		2,382,312.84
		-----
Total with SD Treasurer		12,118,042.24
Billed A/R		1,737,669.14
Unbilled A/R		2,917.40
Other A/R		274,036.77
Inventory - Supplies		2,408,322.74
Inventory - Warehouse		33,740.04
Other Current Assets		614,155.73
		-----
Total Current Assets		18,701,143.56

## FIXED ASSETS

Land, Underground & Other	12,398,635.03
Bldgs & Infrastructure	9,122,537.68
Improvements	63,074,266.88
Computer Equipment	434,783.19
Equipment & Fixtures	10,580,972.55
Accum Depr & Amort	(12,715,169.56)
	-----
Total Fixed Assets	82,896,025.77

## OTHER ASSETS

Work in Process	4,703,052.12
Equipment - Capital Lease	221,912.22
Pension Deferred Outflows	6,287,854.00
Xenon Purchased	1,606,663.11
	-----
Total Other Assets	12,819,481.45

## TOTAL ASSETS

\$ 114,416,650.78  
=====

DIVISION: ALL

## BALANCE SHEET

## LIABILITIES &amp; EQUITY

AS OF  
05/31/17

## CURRENT LIABILITIES

Accounts Payable	\$	758,790.77
Other Payables		4,308.20
		-----
Total Accounts Payable		763,098.97
Accrued Payroll Liab		1,010,502.03
		-----
Total Current Liabilities		1,773,601.00

## OTHER LIABILITIES

LT Accrued EB/Lease		221,912.22
LT Xenon Notes Payable		4,000,000.00
Pension Deferred Inflows		3,184,802.00
		-----
Total Other Liabilities		7,406,714.22

## EQUITY

Restricted: Indemnificati		7,500,000.00
Restricted: Mine Closure		1,398,522.89
Restricted: Sanford Gift2		475,512.97
Restricted: Pension		3,103,052.00
Restricted: Experim. Int.		2,382,312.84
		-----
Total Restricted Funds		14,859,400.70
Investment in Gen FA		82,896,025.77
Unrestricted Funds		7,480,909.09
		-----
Total Equity		105,236,335.56

## TOTAL LIABILITIES &amp; EQUITY

=====

\$ 114,416,650.78

=====

ALL STATEMENT OF INCOME  
FOR THE PERIOD ENDING 05/31/17

	YR-TO-DATE
	-----
REVENUE	
DOE Subcontracts	\$ 23,362,682.76
NSF/NASA Subcontracts	20,790.79
State Revenue	14,033.68
Contributions & Donations	125,000.00
Checking Interest	1,065.74
Interest Income	125,415.92
	-----
TOTAL REVENUE	23,648,988.89
DIRECT COSTS	
Direct Labor	6,743,684.93
ERT Labor	19,422.00
Board of Directors	8,088.29
Capital Outlay >\$5K	574,651.00
Contractual Svcs	5,065,066.39
Inventory	196,403.01
Supplies	1,465,285.62
Travel - Domestic	57,075.45
Travel - Foreign	51,587.49
Utilities	1,977,771.06
Other Direct Costs	187,337.16
Unallow/Unbill Costs	321,094.82
	-----
TOTAL DIRECT COSTS	16,667,467.22
INDIRECT COSTS	
Fringe Benefits	3,807,664.14
Overhead	4,661,678.50
	-----
TOTAL INDIRECT COSTS	8,469,342.64
	-----
GROSS PROFIT FROM OPERATIONS	(1,487,820.97)
	-----
OTHER INCOME	
Water Treatment	133,638.23
Miscellaneous Income	127,438.11
Other Operating Income	2,883.02
	-----
TOTAL OTHER INCOME	263,959.36
OTHER EXPENSES	
Reclass Incr Net Assets	(1,628,449.05)
	-----
TOTAL OTHER EXPENSES	(1,628,449.05)
	=====

NET INCOME/LOSS ( )

\$ 404,587.44

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## ASSETS

	AS OF 05/31/17	AS OF 05/31/16	\$ CHANGE	% CHANGE
<b>CURRENT ASSETS</b>				
First Interstate Checking	\$ 1,495,058.16	\$ 463,966.27	\$ 1,031,091.89	222.23%
First Interstate Other	17,201.34	27,633.13	(10,431.79)	-37.75%
	-----	-----	-----	-----
Total in Local Checking	1,512,259.50	491,599.40	1,020,660.10	207.62%
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	-	111,945.35	(111,945.35)	-100.00%
SD Treas: Sanford Gift #2	475,512.97	2,103,659.97	(1,628,147.00)	-77.40%
SD Treas: Experiments	2,382,312.84	2,357,275.00	25,037.84	1.06%
	-----	-----	-----	-----
Total with SD Treasurer	12,118,042.24	13,621,071.99	(1,503,029.75)	-11.03%
Billed A/R	1,737,669.14	3,396,162.87	(1,658,493.73)	-48.83%
Unbilled A/R	2,917.40	(3,204.48)	6,121.88	191.04%
Other A/R	274,036.77	148,972.54	125,064.23	83.95%
Inventory - Supplies	2,408,322.74	2,473,622.74	(65,300.00)	-2.64%
Inventory - Warehouse	33,740.04	368,921.81	(335,181.77)	-90.85%
Other Current Assets	614,155.73	515,923.90	98,231.83	19.04%
	-----	-----	-----	-----
Total Current Assets	18,701,143.56	21,013,070.77	(2,311,927.21)	-11.00%
<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	434,783.19	455,888.25	(21,105.06)	-4.63%
Equipment & Fixtures	10,580,972.55	10,187,773.06	393,199.49	3.86%
Accum Depr & Amort	(12,715,169.56)	(10,800,242.04)	(1,914,927.52)	17.73%
	-----	-----	-----	-----
Total Fixed Assets	82,896,025.77	85,681,108.77	(2,785,083.00)	-3.25%
<b>OTHER ASSETS</b>				
Work in Process	4,703,052.12	5,519,877.65	(816,825.53)	-14.80%
Equipment - Capital Lease	221,912.22	359,206.46	(137,294.24)	-38.22%
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	12,819,481.45	15,555,562.11	(2,736,080.66)	-17.59%
	=====	=====	=====	=====
<b>TOTAL ASSETS</b>	<b>\$ 114,416,650.78</b>	<b>\$ 122,249,741.65</b>	<b>\$ (7,833,090.87)</b>	<b>-6.41%</b>
	=====	=====	=====	=====

DIVISION: ALL

## COMPARATIVE BALANCE SHEET

## LIABILITIES &amp; EQUITY

	AS OF 05/31/17	AS OF 05/31/16	\$ CHANGE	% CHANGE
<hr/>				
CURRENT LIABILITIES				
Accounts Payable	\$ 758,790.77	\$ 1,898,139.69	\$ (1,139,348.92)	-60.02%
Other Payables	4,308.20	27,788.24	(23,480.04)	-84.50%
	-----	-----	-----	-----
Total Accounts Payable	763,098.97	1,925,927.93	(1,162,828.96)	-60.38%
Accrued Payroll Liab	1,010,502.03	808,428.51	202,073.52	25.00%
	-----	-----	-----	-----
Total Current Liabilities	1,773,601.00	2,734,356.44	(960,755.44)	-35.14%
 OTHER LIABILITIES				
LT Accrued EB/Lease	221,912.22	359,206.46	(137,294.24)	-38.22%
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	7,406,714.22	6,771,579.46	635,134.76	9.38%
	-----	-----	-----	-----
TOTAL LIABILITIES	9,180,315.22	9,505,935.90	(325,620.68)	-3.43%
 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	-	111,945.35	(111,945.35)	-100.00%
Restricted: Mine Closure	1,398,522.89	1,379,921.18	18,601.71	1.35%
Restricted: Sanford Gift2	475,512.97	1,969,160.00	(1,493,647.03)	-75.85%
Restricted: Pension	3,103,052.00	2,764,105.00	338,947.00	12.26%
Restricted: Experim. Int.	2,382,312.84	2,357,275.00	25,037.84	1.06%
	-----	-----	-----	-----
Total Restricted Funds	14,859,400.70	18,582,406.53	(3,723,005.83)	-20.04%
Investment in Gen FA	82,896,025.77	85,681,108.77	(2,785,083.00)	-3.25%
Unrestricted Funds	7,480,909.09	8,480,290.45	(999,381.36)	-11.78%
	-----	-----	-----	-----
TOTAL EQUITY	105,236,335.56	112,743,805.75	(7,507,470.19)	-6.66%
 =====				
TOTAL LIABILITIES & EQUITY	\$ 114,416,650.78	\$ 122,249,741.65	\$ (7,833,090.87)	-6.41%
	=====	=====	=====	=====

## COMPARATIVE STATEMENT OF INCOME

FOR THE PERIOD ENDING 05/31/17

	YEAR TO DATE	PRIOR YEAR TO DATE	\$ CHANGE	% CHANGE
REVENUE				
DOE Subcontracts	\$ 23,362,682.76	\$ 21,481,307.40	\$ 1,881,375.36	8.76%
NSF/NASA Subcontracts	20,790.79	6,743.13	14,047.66	208.33%
State Revenue	14,033.68	2,018,700.45	(2,004,666.77)	-99.30%
Contributions & Donations	125,000.00	407,781.62	(282,781.62)	-69.35%
Checking Interest	1,065.74	143.23	922.51	644.08%
Interest Income	125,415.92	103,940.56	21,475.36	20.66%
TOTAL REVENUE	23,648,988.89	24,018,616.39	(369,627.50)	-1.54%
DIRECT COSTS				
Direct Labor	6,743,684.93	6,632,052.98	111,631.95	1.68%
ERT Labor	19,422.00	30,458.79	(11,036.79)	-36.24%
Board of Directors	8,088.29	10,840.00	(2,751.71)	-25.38%
Capital Outlay >\$5K	574,651.00	135,340.65	439,310.35	324.60%
Contractual Svcs	5,065,066.39	6,599,878.32	(1,534,811.93)	-23.26%
Inventory	196,403.01	265,545.34	(69,142.33)	-26.04%
Supplies	1,465,285.62	1,352,354.35	112,931.27	8.35%
Travel - Domestic	57,075.45	82,116.65	(25,041.20)	-30.49%
Travel - Foreign	51,587.49	39,239.88	12,347.61	31.47%
Utilities	1,977,771.06	2,043,191.72	(65,420.66)	-3.20%
Other Direct Costs	187,337.16	260,960.06	(73,622.90)	-28.21%
Unallow/Unbill Costs	321,094.82	315,401.58	5,693.24	1.81%
TOTAL DIRECT COSTS	16,667,467.22	17,767,380.32	(1,099,913.10)	-6.19%
INDIRECT COSTS				
Fringe Benefits	3,807,664.14	3,460,084.20	347,579.94	10.05%
Overhead	4,661,678.50	4,033,985.69	627,692.81	15.56%
TOTAL INDIRECT COSTS	8,469,342.64	7,494,069.89	975,272.75	13.01%
GROSS PROFIT	(1,487,820.97)	(1,242,833.82)	(244,987.15)	-19.71%
OTHER INCOME				
Water Treatment	133,638.23	222,314.62	(88,676.39)	-39.89%
Miscellaneous Income	127,438.11	65,025.72	62,412.39	95.98%
Other Operating Income	2,883.02	3,256.65	(373.63)	-11.47%
TOTAL OTHER INCOME	263,959.36	290,596.99	(26,637.63)	-9.17%
OTHER EXPENSES				
Loss(Gain) on Sale of FA	-	155,509.06	(155,509.06)	-100%
Reclass Incr Net Assets	(1,628,449.05)	(1,449,965.71)	(178,483.34)	12.31%
TOTAL OTHER EXPENSES	(1,628,449.05)	(1,294,456.65)	(333,992.40)	25.80%
NET INCOME/LOSS ( )	\$ 404,587.44	\$ 342,219.82	\$ 62,367.62	18.22%

**South Dakota Science & Technology Authority**  
**Available Resources**  
**5/31/2017**

Cash Total Checking	\$ 1,495,058
Cash With State Treasurer	<u>\$ 12,118,042</u>
Total Cash	\$ 13,613,100
Less: Restricted Funds	
Indemnification/Mine Closure	\$ (8,898,523)
Experiments (Xenon, Interest,Infrastructure)	<u>\$ (2,382,313)</u>
Total Cash Available for Infrastructure Upgrades and Authority Operations	\$ 2,332,264
Plus: Accounts Receivable Billed	\$ 1,737,669
Accounts Receivable Unbilled	\$ 2,917
Less: Current Liabilities (Accounts Payable & Accrued Payroll)	<u>\$ (1,773,601)</u>
Available Cash	<u><u>\$ 2,299,249</u></u>

SDSTA Operating Budget Summary FY2017  
Actual vs Budget  
May 2017 & YTD

	May 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	\$18,644.00	\$19,900.00	\$1,256.00	93.69%	\$205,180.00	\$218,900.00	\$13,720.00	93.73%	6.27%
Executive Office	\$9,393.00	\$14,993.00	\$5,600.00	62.65%	\$172,750.00	\$176,343.00	\$3,593.00	97.96%	2.04%
Science Center E & O	\$10,624.00	\$11,000.00	\$376.00	96.58%	\$45,428.00	\$40,749.00	-\$4,679.00	111.48%	-11.48%
Science Liaison	\$528.00	\$0.00	-\$528.00	100.0%	-\$164.00	\$0.00	\$164.00	0.00%	0.00%
Sanf.L.Visitor C. (Director)	\$3,030.00	\$4,518.00	\$1,488.00	67.07%	\$63,887.00	\$69,692.00	\$5,805.00	91.67%	8.33%
Subtotal	\$42,219.00	\$50,411.00	\$8,192.00	83.75%	\$487,081.00	\$505,684.00	\$18,603.00	96.32%	3.68%
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.	\$29,845.00	\$30,000.00	\$155.00	99.48%	\$1,289,773.00	\$1,345,000.00	\$55,227.00	95.89%	4.11%
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	\$4,076.00	\$5,000.00	\$924.00	81.52%	\$102,628.00	\$184,167.00	\$81,539.00	55.73%	44.27%
Fermi P.O.#631450 Engin. Services	\$21,781.00	\$25,362.00	\$3,581.00	85.88%	\$88,259.00	\$113,426.00	\$25,167.00	77.81%	22.19%
Fermi C#629760 Bridge OPS	\$888,206.00	\$979,350.00	\$91,144.00	90.69%	\$7,420,686.00	\$7,937,233.00	\$516,547.00	93.49%	6.51%
Fermi C#630223 Ross Rehab	\$312,723.00	\$478,634.00	\$165,911.00	65.34%	\$2,298,379.00	\$2,620,998.00	\$322,619.00	87.69%	12.31%
LBNL LUX C#6973786	\$12,587.00	\$15,303.00	\$2,716.00	82.25%	\$144,848.00	\$170,820.00	\$25,972.00	84.80%	15.20%
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	\$26,950.00	\$33,921.00	\$6,971.00	79.45%	\$821,598.00	\$812,275.00	-\$9,323.00	101.15%	-1.15%
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	\$3,247.00	\$2,500.00	-\$747.00	129.88%	\$13,763.00	\$25,500.00	\$11,737.00	53.97%	46.03%
RESPEC C#02703A	\$0.00	\$500.00	\$500.00	0.0%	\$87,725.00	\$104,824.00	\$17,099.00	83.69%	16.31%
Northwestern Univ. NASA981568	\$0.00	\$200.00	\$200.00	0.0%	\$112.00	\$2,200.00	\$2,088.00	5.09%	94.91%
BHSU-UGCampus Gen.Serv.	\$522.00	\$200.00	-\$322.00	261.0%	\$1,627.00	\$2,200.00	\$573.00	73.95%	26.05%
Sanf.Sci.Ed.Center - GOED Funded	\$0.00	\$30,000.00	\$30,000.00	0.0%	\$335,452.00	\$397,500.00	\$62,048.00	84.39%	15.61%
SDSM&Tech CASPAR Gen.Serv.	\$1,452.00	\$2,666.00	\$1,214.00	54.46%	\$16,520.00	\$24,036.00	\$7,516.00	68.73%	31.27%
* Xilinx, Inc. P.O.#732495	\$228.00	\$240.00	\$12.00	95.0%	\$2,305.00	\$2,760.00	\$455.00	83.51%	16.49%
Subtotal	\$1,301,617.00	\$1,603,876.00	\$302,259.00	81.15%	\$19,594,526.00	\$20,925,367.00	\$1,330,841.00	93.64%	6.36%
Indirect Expenses									
Indirect Charges Personnel	\$115,723.00	\$121,687.00	\$5,964.00	95.10%	\$1,377,994.00	\$1,386,396.00	\$8,402.00	99.39%	0.61%
Indirect Charges Other	\$246,572.00	\$283,935.00	\$37,363.00	86.84%	\$3,911,683.00	\$3,383,618.00	-\$528,065.00	115.61%	-15.61%
Subtotal	\$362,295.00	\$405,622.00	\$43,327.00	89.32%	\$5,289,677.00	\$4,770,014.00	-\$519,663.00	110.89%	-10.89%
Totals	\$1,706,131.00	\$2,059,909.00	\$353,778.00	82.83%	\$25,371,284.00	\$26,201,065.00	\$829,781.00	96.83%	3.17%
* Private Corporation (Commercial Group)									



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

<u>Budget Area</u>	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	\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%	\$ 4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%
TOTAL CAPEX	\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%	\$ 4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%

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

Project #	Project Description	May-17	Budget	\$ Over/UnderBudget	% of Budget
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 1,526.69	\$ -	\$ (1,526.69)	0.00%
CAP2014-05	CASPAR Experiment Development	\$ 10,608.65	\$ 15,000.00	\$ 4,391.35	70.72%
CAP2016-02	LZ Surface Facility Upgrades	\$ 55,995.62	\$ 68,693.00	\$ 12,697.38	81.52%
CAP2016-03	LZ Xenon Gas	\$ 416.17	\$ 417.00	\$ 0.83	99.80%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ -	\$ -	\$ -	0.00%
CAP2017-01	Ellison Option	\$ 555,000.00	\$ 555,000.00	\$ -	0.00%
CAP2017-02	Ellison Option Asbestos Abatement	\$ -	\$ -	\$ -	0.00%
Monthly Totals		\$ 623,547.13	\$ 639,110.00	\$ 15,562.87	97.56%

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

Project #	Project Description	May 2017 YTD	FY2017 Budget	\$ Over/UnderBudget	% of Budget	% Remaining
						100%
CAP2014-01	Sanford Visitor Center Sign/Display	\$ 11,703.59	\$ 36,623.00	\$ 24,919.41	31.96%	68.04%
CAP2014-05	CASPAR Experiment Development	\$ 56,639.97	\$ 161,525.00	\$ 104,885.03	35.07%	64.93%
CAP2016-02	LZ Surface Facility Upgrades	\$ 1,176,610.99	\$ 1,086,099.00	\$ (90,511.99)	108.33%	-8.33%
CAP2016-03	LZ Xenon Gas	\$ 2,660,120.85	\$ 4,670,064.00	\$ 2,009,943.15	56.96%	43.04%
CAP2016-04	Water Inflow Project - Pipe Fusing	\$ 74,597.84	\$ 77,472.00	\$ 2,874.16	96.29%	3.71%
CAP2017-01	Ellison Option	\$ 555,759.00	\$ 555,000.00	\$ (759.00)	100.14%	-0.14%
CAP2017-02	Ellison Option Asbestos Abatement	\$ 26,379.25	\$ 285,312.00	\$ 258,932.75	9.25%	90.75%
	Totals	\$4,561,811.49	\$ 6,872,095.00	\$ 2,310,283.51	66.38%	33.62%

Addit. Funding for Water Inflow Project - \$22,000

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**Approval of Amendment to LBNF Temporary Construction Easement—Mr. Mike Headley**

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Attached is the LBNF Temporary Construction Easement - Supplemental Agreement No. 1 Approval Memorandum

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**Recommended Action:**

*Motion to approve amendment to the LBNF Temporary Construction Easement between the U.S. DOE/Fermi Site Office and the SDSTA and authorize the chairperson to sign final Supplemental Agreement No. 1.*

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**SUPPLEMENTAL AGREEMENT NO. 1  
TEMPORARY CONSTRUCTION EASEMENT  
SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY (SDSTA)**

This Supplemental Agreement No. 1 is entered into for the revision of the Temporary Construction Easement (TCE) dated October 14, 2016 between the UNITED STATES OF AMERICA (hereinafter referred to as the "Grantee,") acting by and through the U. S. DEPARTMENT OF ENERGY (hereinafter referred to as "DOE"), under authority and by virtue of the Atomic Energy Act of 1954, Public Law 83-703, and the Department of Energy Organization Act, Public Law 95-91, as amended and the South Dakota Science and Technology Authority (SDSTA) (hereinafter referred to as the "Grantor"). This Supplemental Agreement shall be effective upon the date of signature of the second signatory.

**PURPOSE:** The purpose of Supplemental Agreement No. 1 is to amend the easement to include the areas identified in Exhibit A, attached hereto and made a part hereof.

The above referenced Temporary Construction Easement is modified in the following respects:

1. Increase the area covered by the TCE with the addition of drawings 15-1-6 SU-PDR-A-100, 15-1-6 PER-B-T-101, On-Site Parking and Staging Areas – Ross, Oro Hondo Fan, 15-1-6 PER-C-233, 15-1-6 PER-C-231.

Except as herein modified, all terms and conditions remain unchanged.

IN WITNESS WHEREOF, the parties hereto have executed this Supplemental Agreement No. 1 to be signed on their behalf by their duly authorized representative.

**GRANTOR  
SOUTH DAKOTA SCIENCE AND  
TECHNOLOGY AUTHORITY**

**GRANTEE  
UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY**

By: \_\_\_\_\_

Casey C. Peterson  
Title: Board Chairperson

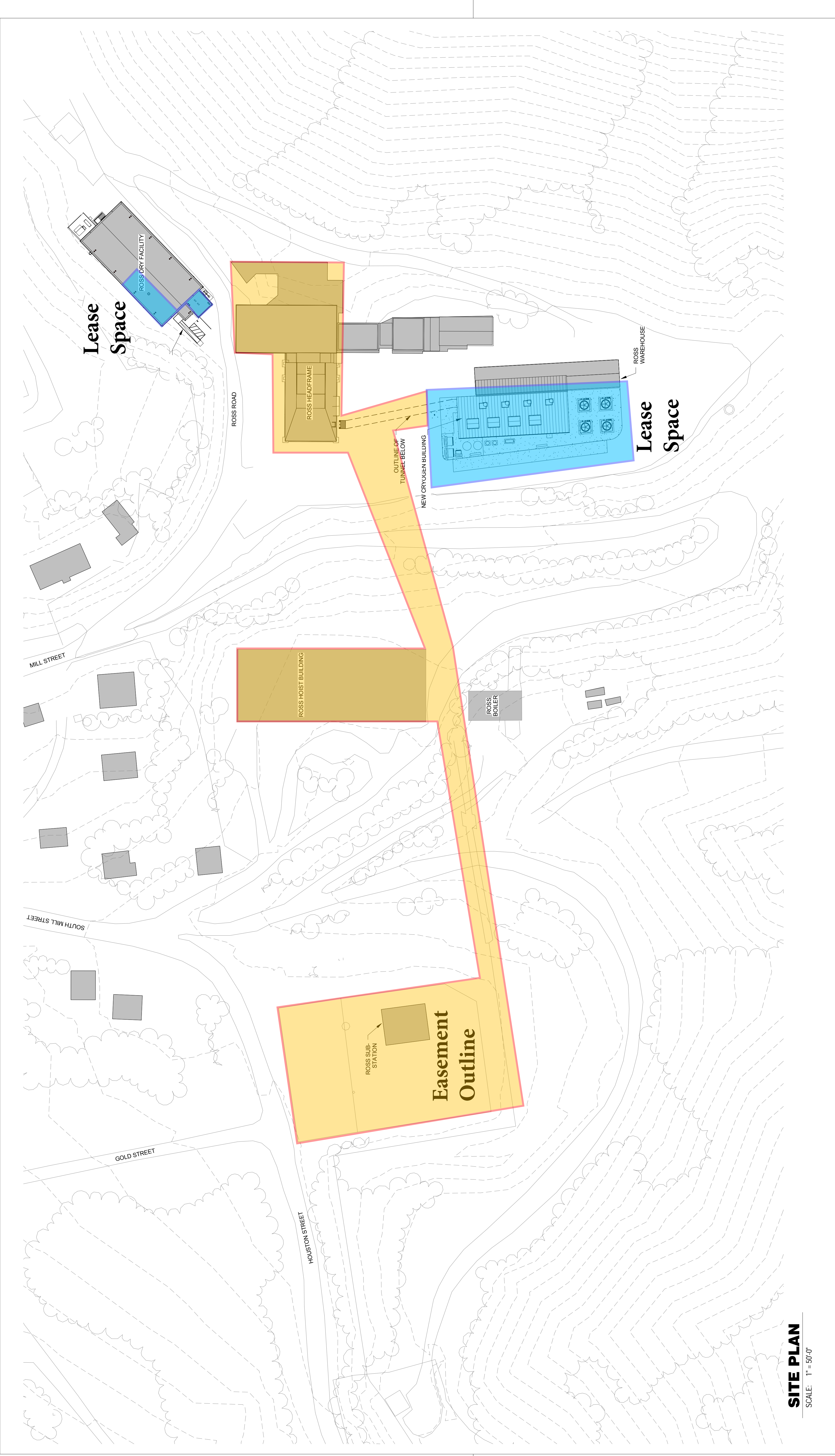
Date: \_\_\_\_\_

By: \_\_\_\_\_

Michael Weis  
Title: Fermi Site Office Manager

Date: \_\_\_\_\_





**SITE PLAN**  
SCALE: 1" = 50'-0"

REV.	DATE	DESCRIPTION	REVISIONS
3	08/26/15	100% PDR SUBMISSION	
2	07/08/15	75% PDR SUBMISSION	
1	04/22/15	30% PDR REVISED SUBMISSION	

ARUP

Arup USA Inc  
77 Water Street  
New York NY 10005  
www.arup.com

DKa

Danierio

Keene Architecture

100 Waverley Rd  
New York, NY 10014  
(917) 734-2861

TSP Inc

600 West 4th St  
Apt 401  
New York, NY 10014  
Phone: (646) 343-8702  
Fax: (646) 343-8703  
www.tspinc.com

RESPEC

CONSULTING & SERVICES

**SCALE:**

1"=50'-0"

50 0 50 100  
SCALE  
FEET

Fermilab Facilities Engineering Services Section Managed by Fermi Research Alliance for the U.S. Department of Energy, Office of Science			
DESIGNED	SC	DKa	
DRAWN	SC	DKa	
CHECKED	SD	DKa	

LBNF - CF - Far Detector - BSI

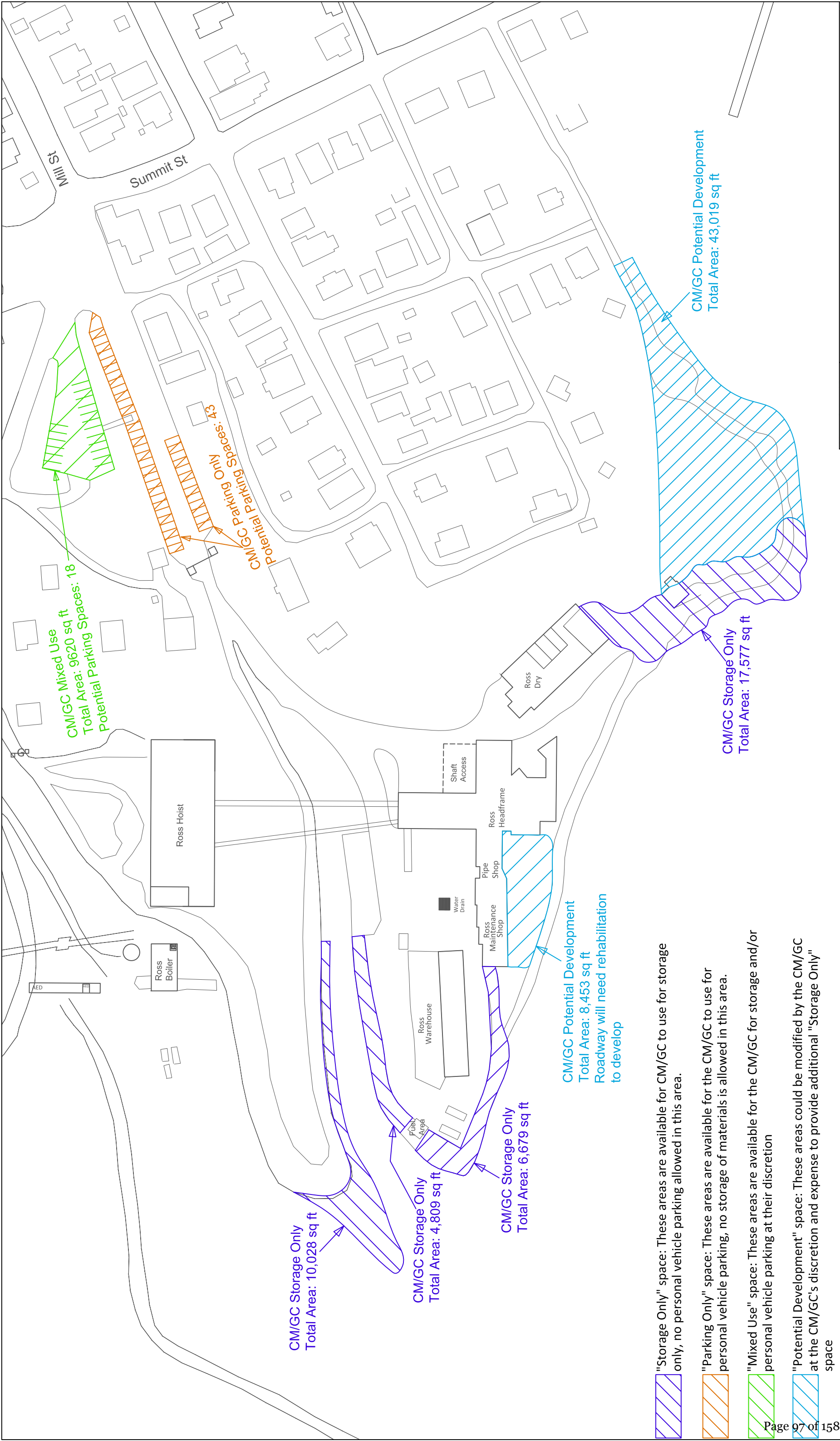
SURFACE ARCHITECTURAL SITE PLAN

DRAWING NO. 15-1-6 SU-PDR-A-100

REV. 3

5/19/2015





All space outside of these hatched areas is used by the SDSTA and should not be assumed to be available for use by the CM/GC. If the space identified on these sheets is insufficient, the CM/GC is responsible for procuring additional offsite space and managing transportation from this offsite space.

The SDSTA reserves the right to require the CM/GC to restore any of these areas to existing conditions or retain the modified conditions at their discretion.



## On-Site Parking and Staging Areas - Ross

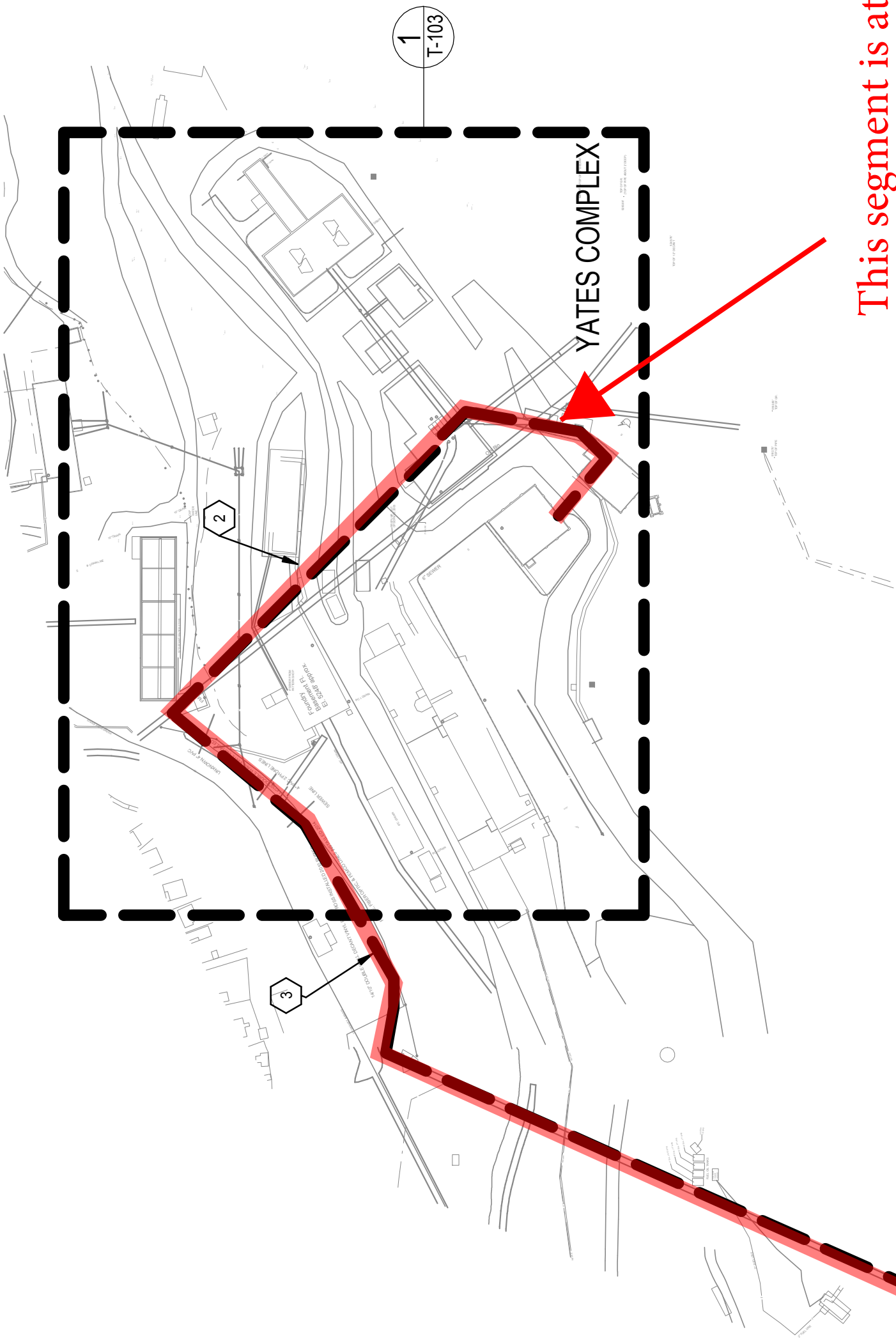
630 E. SUMMIT STREET  
LEAD, SD 57754

NOT TO SCALE

May 26, 2016

GENERAL NOTES: SITE PLAN	
A.	SEE PER-B-T-302 FOR CABLE STRAND COUNT DETAILS.
B.	SEE ENLARGED SITE PLANS ON PER-B-T-102, PER-B-T-103.
C.	SEE PER-B-T-301 FOR RACEWAY SIZES AND QUANTITIES.

KEY NOTES: SITE PLAN	
1.	APPROXIMATE ROUTE THROUGH ROSS TRAMWAY, APPROXIMATELY 125 FEET BELOW SURFACE.
2.	APPROXIMATE ROUTE IN YATES TRAMWAY TO YATES SHAFT.
3.	THREE EXISTING 4" CONDUITS ARE BURIED BETWEEN THE ROSS TRAMWAY AND THE YATES TRAMWAY.



This segment is at the Yates Ramp (~30' below grade) and connects through the Yates E&O building to the Yates Administration Building

The red area highlighted represents an easement on the tramway level, Approximately 162 feet below the top of the Ross Shaft. Details for the two ends on the following drawings.

REV.	DATE	DESCRIPTION
5	12/23/16	PRE-EXCAVATION 100% FINAL DESIGN SUBMISSION
4	11/03/16	PRE-EXCAVATION 90% FINAL DESIGN REV. A SUBMISSION
3	10/13/16	PRE-EXCAVATION 90% FINAL DESIGN SUBMISSION
2	07/14/16	PRE-EXCAVATION 60% FINAL DESIGN SUBMISSION
1	03/22/16	PRE-EXCAVATION 30% FINAL DESIGN SUBMISSION

ARUP

Arup USA Inc  
77 Water Street, New York NY 10005, T 212 896 3000  
www.arup.com

TSP

TSP Inc.  
600 Newark City St.  
Rutherford, NJ 07071  
Phone: (863) 344-4102  
Fax: (863) 344-4103  
www.bartstsp.com

srk consulting

POWER ENGINEERS

FILEV

PROJECT NORTH

SCALE:

1"=200'-0"

FEET

Fermilab

Long-Baseline Neutrino Facility

DESIGNED	DLB	TSP
DRAWN	KAO	TSP
CHECKED	DLB	TSP

**LBNF - FSCF - BSI**  
**PRE-EXCAVATION PACKAGE**  
**CYBERINFRASTRUCTURE**  
**OVERALL SITE PLAN**

DRAWING NO. **15-1-6** REV. **5**



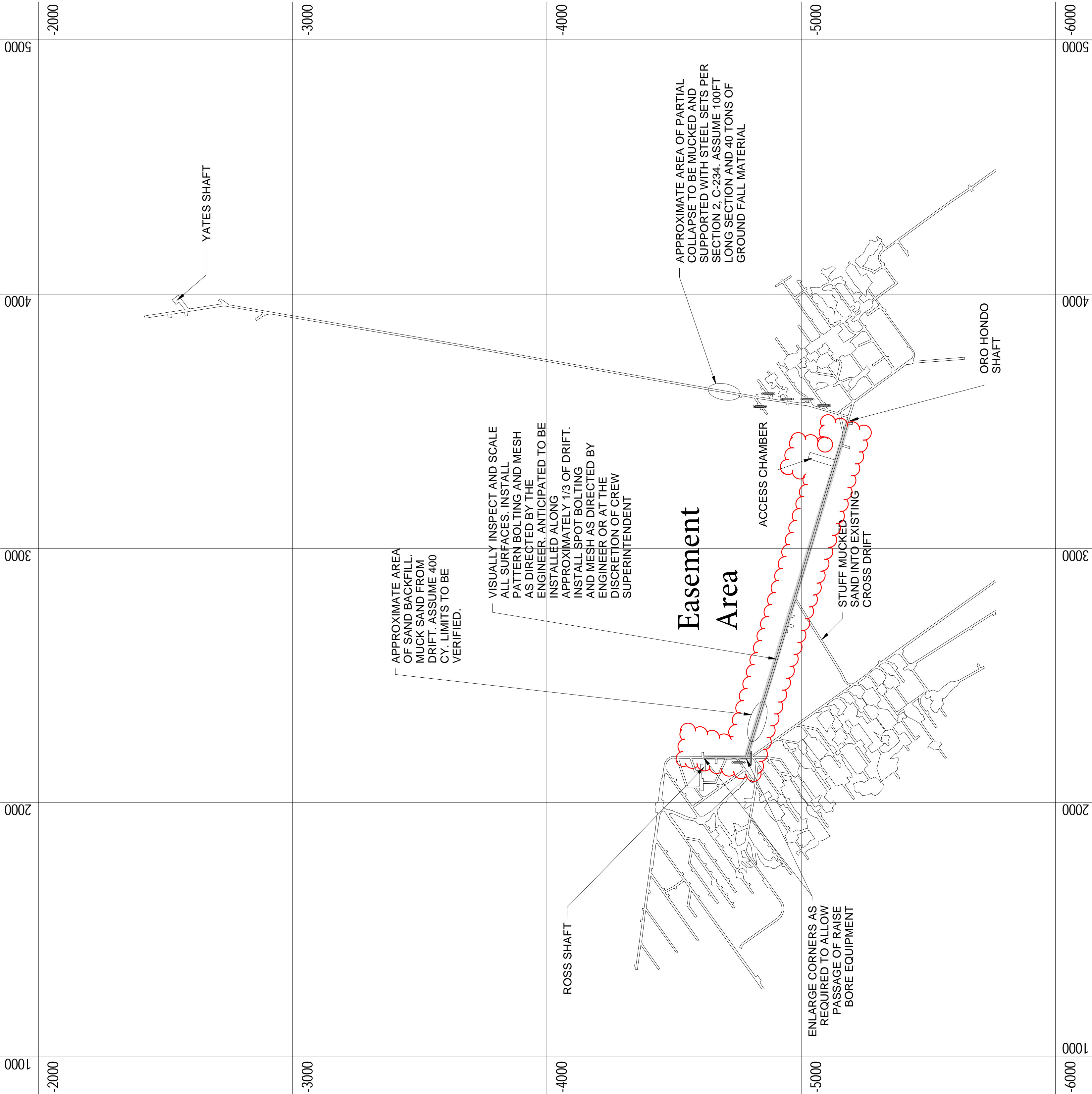
# Oro Hondo Fan

The area outlined in red in the graphic below represents the easement space for work to rebuild the existing centrifugal fan at the top of the Oro Hondo Shaft.

The Oro Hondo Substation and Ross Campus are included in this graphic for reference only



- NOTES:**
1. FOR GENERAL NOTES AND ABBREVIATIONS, REFER TO DRAWINGS C-001 AND C-002.
  2. FOR COST ESTIMATE, ASSUME 5 SHIFTS PER VENTILATION CONTROL FOR CREW OF 3 TO INSTALL.



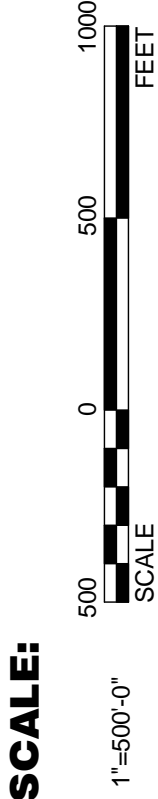
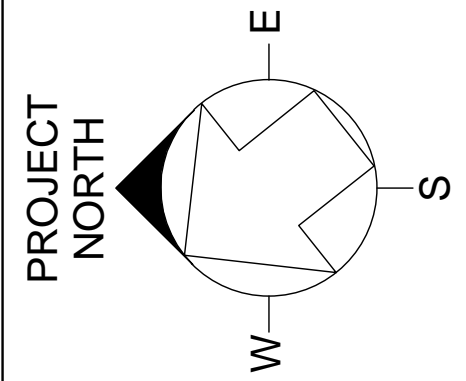
REV.	DATE	DESCRIPTION
1	03/22/16	PRE-EXCAVATION 30% FINAL DESIGN SUBMISSION
REVISIONS		

ARUP

Arup USA Inc  
77 Water Street, New York NY 10005, T 212 896 3000  
www.arup.com

McMILLEN JACOBS ASSOCIATES

srk consulting



<b>Fermilab</b> Facilities Engineering Services Section <small>Managed by Fermi Research Alliance for the U.S. Department of Energy, Office of Science</small>		<b>ARUP</b>	
DESIGNED	<b>AG</b>	DRAWN	<b>ES</b>
CHECKED	<b>JH</b>		

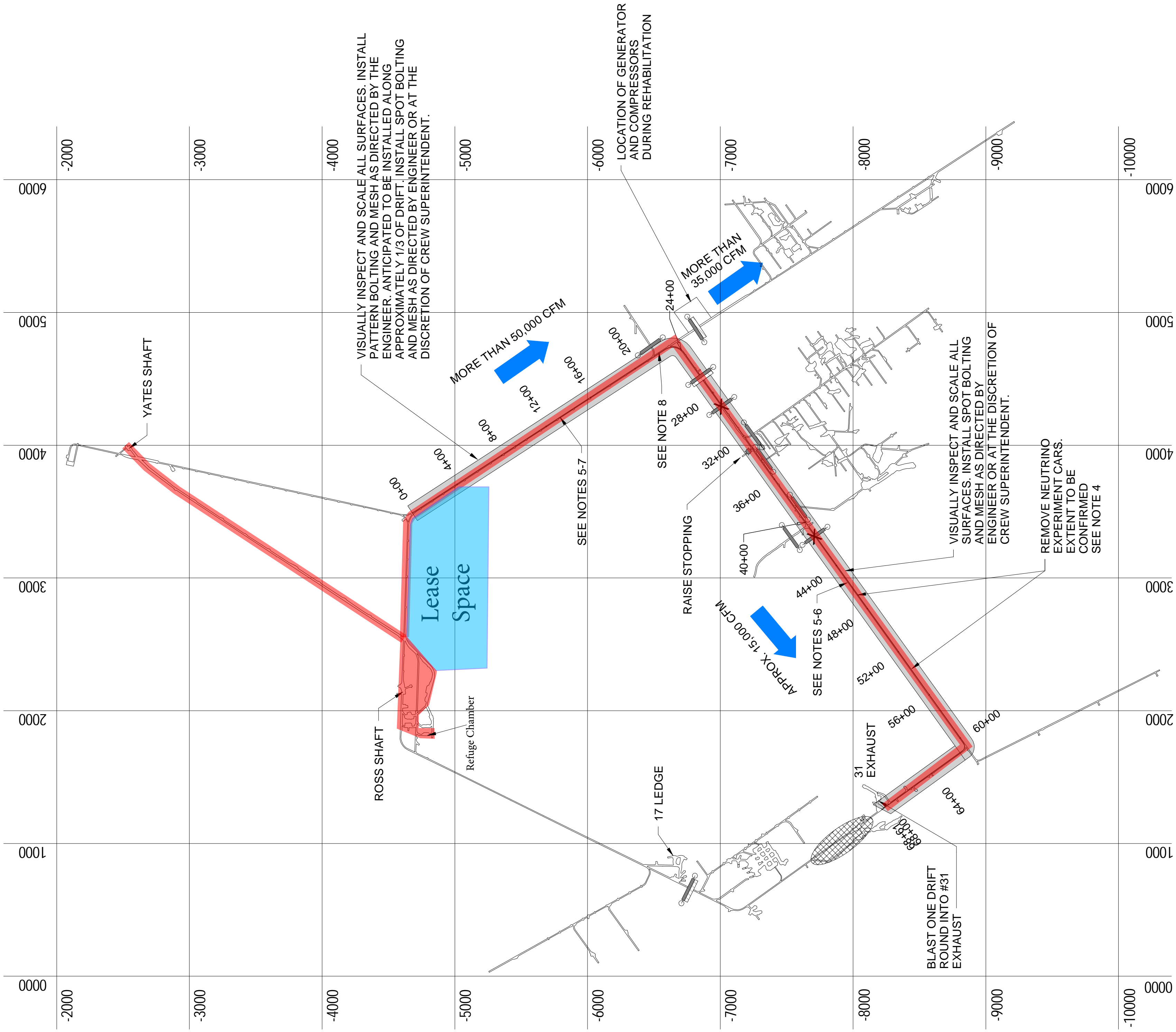
<b>LBNF – CF – Far Detector – Excavation</b> <b>PRE EXCAVATION PACKAGE</b> <b>3650 LEVEL</b> <b>VENTILATION REHABILITATION WORK</b>		DRAWING NO. <b>15-1-6</b>	REV. <b>1</b>
--	--	---------------------------	---------------



- NOTES:**
1. FOR GENERAL NOTES AND ABBREVIATIONS, REFER TO DRAWINGS C-001 AND C-002.
  2. FOR COST ESTIMATE, ASSUME 5 SHIFTS FOR CREW OF 3 TO REMOVE EXISTING AIR DOORS.
  3. FOR COST ESTIMATE, ASSUME 3 SHIFTS PER VENTILATION CONTROL FOR CREW OF 3 TO INSTALL.
  4. FOR COST ESTIMATE, FOR NEUTRINO EXPERIMENT CAR REMOVAL, ASSUME 6 CARS, 15 SHIFTS FOR CREW OF 3 TO CUT, TRANSPORT, HOIST TO SURFACE.
  5. ASSUME 100% OF TRACK SECTIONS TO BE REPLACED BETWEEN #4 WINZE DRIFT AND 31 EXHAUST. ASSUME 10% OF TRACK SECTIONS TO BE REPLACED BETWEEN #4 WINZE AND JUNCTION WITH CROSSDRIFT TO 31 EXHAUST.
  6. REMOVE EXISTING UTILITIES, CUT UP TRANSPORT, HOIST TO SURFACE. ASSUME 1x8" PIPE, 2x6" PIPE, 1x3" CABLE, 2x1" CABLE SUSPENDED FROM ROOF IN #4 WINZE DRIFT. ASSUME 2x6" PIPE, 2x3" CABLE, 4x1" CABLE SUSPENDED FROM ROOF IN CROSS DRIFT TO 31 EXHAUST.
  7. REMOVE EXISTING SURFACE PROTECTION (MESH, CHAINLINK) IN #4 WINZE DRIFT. REPLACE WITH GALVANIZED WELDED WIRE MESH, #6 GAUGE WITH 4" OPENINGS.
  8. BACKFILL ANNULAR SPACE BETWEEN STEEL SETS AND ROCK SURFACE BETWEEN STA. 21+80 AND STA. 22+90 WITH CONCRETE.

Easement Areas

Note that the area defined as 0+00 through 68+61 is the "Ventilation Rehab" project



LEGEND

- COLLAPSED AREA
- EXISTING AIR DOOR TO BE REMOVED (SEE NOTE 2)
- BULKHEAD (SEE NOTE 3)
- REGULATOR DOOR (SEE NOTE 3)
- RAISE STOP (SEE NOTE 3)
- AREA TO BOLT AND REFURBISH TRACK

ARUP

Arup USA Inc  
77 Water Street, New York NY 10005, T 212 896 3000  
www.arup.com

McMILLEN JACOBS ASSOCIATES

srk consulting

REV.	DATE	DESCRIPTION
1	03/22/16	PRE-EXCAVATION 30% FINAL DESIGN SUBMISSION
REVISIONS		

PROJECT NORTH

SCALE:

500 1000

1"=500'-0"

SCALE

DESIGNED

AG

ARUP

DRAWN

ES

ARUP

CHECKED

JH

ARUP

Fermilab

Facilities Engineering Services Section  
Managed by Fermi Research Alliance for the U.S. Department of Energy, Office of Science

LBNF – CF – Far Detector – Excavation

PRE EXCAVATION PACKAGE

4850 LEVEL

VENTILATION REHABILITATION WORK

DRAWING NO.

15-1-6

REV.

1

PER-C-231

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**Approval of FY2018 Office of Risk Management Intergovernmental Agreement – Mr. Mike Headley**

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Attached is the FY2018 Intergovernmental Agreement between the Bureau of Administration, Office of Risk Management of the State of South Dakota and the SDSTA.

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**Recommended Action:**

*Motion to approve the FY2018 Intergovernmental Agreement between the Bureau of Administration, Office of Risk Management of the State of South Dakota and the SDSTA and authorize the SDSTA Executive Director to sign the agreement.*

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INTERGOVERNMENTAL AGREEMENT  
BETWEEN THE  
BUREAU OF ADMINISTRATION,  
OFFICE OF RISK MANAGEMENT  
OF THE STATE OF SOUTH DAKOTA  
AND THE  
SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY

This INTERGOVERNMENTAL AGREEMENT (“AGREEMENT”) is made and effective the 1st day of July, 2017, between the South Dakota Bureau of Administration, Office of Risk Management, 1429 E. Sioux Avenue, Pierre, South Dakota 57501 (“ORM”), and the South Dakota Science and Technology Authority, 630 E. Summit, Lead, South Dakota, 57754 (“SDSTA”) pursuant to SDCL Ch. 1-24 and in particular SDCL 1-24-8.

Introduction and Purpose

The State of South Dakota established SDSTA to facilitate the development of the former Homestake gold mine into an underground science laboratory (“the Sanford Laboratory”) and to lead the operation of the Sanford Laboratory. The mission of the SDSTA is “to enable compelling underground, multidisciplinary research in a safe work environment and to inspire and educate through science, technology, and engineering.”

When operating as an active mine, the Homestake gold mine was regulated by the U.S. Mine Safety and Health Administration (“MSHA”) and the South Dakota Department of Environment and Natural Resources (“DENR”). SDSTA received title to the Homestake site in 2006 from Homestake Mining Company of California after the 2003 closure of the mining facility.

MSHA and DENR continued to administer and enforce safety and environmental programs until 2008, at which time the SDSTA sought to clarify MSHA’s regulatory role. MSHA determined at that time it no longer had regulatory jurisdiction over the safety and health operations at the Homestake site due to the completion of mining reclamation and the new function of the site.

The U.S. Occupational Safety and Health Administration’s (“OSHA”) 29 CFR 1926<sup>1</sup> and 29 CFR 1910<sup>2</sup> are considered the most applicable of the available standards for safety and health for most activities conducted in support of the development of the underground laboratory. MSHA’s 30 CFR<sup>3</sup> standards are employed as a best practice for underground activities when the OSHA standards do not sufficiently address a given hazard.

Although OSHA standards are being applied to the work conducted at the Sanford Laboratory, OSHA does not have jurisdictional authority for enforcement of those regulations because SDSTA is for the purposes of OSHA standards and regulation a “political subdivision”

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<sup>1</sup> Title 29 Code of Federal Regulations Part 1926, “Safety and Health Regulations for Construction”

<sup>2</sup> Title 29 Code of Federal Regulations Part 1910, “Occupational Safety and Health Standards”

<sup>3</sup> Title 30 Code of Federal Regulations Parts 1 -199, “Mineral Resources”

as defined in 29 CFR 1975.5 because it is administered by individuals who are appointed by the Governor.

ORM has the responsibility to oversee the state's risk management activities. Accordingly, ORM is the agency that is mandated to provide the inspection and audit of state institutions and facilities, and has been designated to serve as the agency having jurisdiction ("AHJ") for occupational safety and health for Sanford Laboratory operations.

SDSTA has entered into a lease (the "Lease") with the United States of America, acting through the Department of Energy (the "Government"), dated March 29, 2016, whereby SDSTA has leased to the Government certain surface and subsurface real estate for the purpose of constructing, operating and maintaining the Long Baseline Neutrino Facility ("LBNF") and the Deep Underground Neutrino Experiment ("DUNE"), and related infrastructure (the "Leased Space"). ORM's jurisdiction hereunder shall not include the Leased Space, but SDSTA and ORM shall continue to consult and cooperate concerning occupational safety and health related to the Leased Space.

The purpose of this Agreement is to clarify the roles and responsibilities, expectations and communications for ORM to serve as the AHJ for SDSTA for implementing occupational safety and health standards.

This Agreement is authorized pursuant to SDCL Ch. 1-24 and SDCL 1-16H-32.

#### Agreement

A. Safety Standards Applicable to SDSTA. Until amended in writing by ORM, the safety standards applicable to SDSTA's facilities and operations shall be as set out in Appendix A, attached hereto and incorporated herein by this reference. The parties agree that ORM may unilaterally amend Appendix A at any time and in their sole discretion, and all such amendments shall be incorporated herein effective upon 30 days written notice to SDSTA.

The parties further acknowledge and agree that the agency having jurisdiction over the enforcement of building (International Building Code) and fire safety (National Fire Protection Association) codes and standards is the City of Lead, South Dakota. ORM shall not have jurisdiction to apply or enforce any codes and standards.

B. Responsibilities of the ORM<sup>4</sup>. ORM shall:

1. Provide for safety, loss control and regulatory compliance audits and inspections of SDSTA's books, records and facilities;
2. Review claims to identify trends or situations requiring loss prevention efforts;
3. Advise SDSTA on applicable laws, regulations and standards which contribute to a safe work environment at the Sanford Laboratory;
4. Provide for loss control training;
5. Upon request, review contracts for appropriate risk management language;
6. Assist SDSTA with the selection of brokers and insurance companies and in

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<sup>4</sup> State of South Dakota Risk Management Manual, The Office of Risk Management, June 25, 2009

- negotiating to obtain the best product for the best price;
- 7. Provide enforcement of the safety standards made applicable to SDSTA's facilities by this Agreement; and
- 8. Provide copies of the results of safety or compliance reviews, inspections, or audits to SDSTA upon completion.

C. Risk Management Responsibilities of SDSTA<sup>5</sup>. SDSTA shall:

1. Be responsible for coordinating and implementing risk management programs within its departments and at its facilities with the assistance of ORM. SDSTA will provide a safe workplace and conduct operations in a manner that protects employees, contractors, visitors and the public from harm. The SDSTA shall conform to its safety policy: "Perform all work safely, with full regard to the well-being of all stakeholders and the environment;"

2. Take appropriate steps to ensure that all employees, users, visiting scientists, contractors and subcontractors are responsible for conducting work and operations in a safe and environmentally sound manner;

3. Pursuant to Section 6.7 of the Property Donation Agreement<sup>6</sup> between SDSTA and Homestake, undertake all measures necessary to comply with all applicable federal, state, and local laws and regulations, including, without limitation, laws relating to workers' compensation, mine health and safety, and all Environmental Health and Safety Laws (as defined in the Property Donation Agreement), and shall apply in a timely manner for all Environmental Permits (as defined in the Property Donation Agreement) and all other permits, licenses and approvals necessary for its operations;

4. Assist ORM in identifying, measuring and minimizing exposures to loss by:
- a. Conducting facility inspections to identify and address safety hazards;
  - b. Conducting services and operations in accordance with applicable laws, regulations, and safety standards;
  - c. Properly reporting accidents, incidents and unsafe conditions;
  - d. Reviewing losses to identify trends or situations requiring loss prevention efforts;
  - e. Ensuring policies and procedures remain current, are communicated to all employees and enforced;
  - f. Drafting all contracts with the appropriate risk management language;
  - g. Communicating changes in exposures to ORM; and
  - h. Implementing ORM's recommendations.

5. Comply with all safety and enforcement directives and actions given by ORM.

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<sup>5</sup> State of South Dakota Risk Management Manual, The Office of Risk Management, June 25, 2009

<sup>6</sup> Property Donation Agreement Between and Among Homestake Mining Company of California, The State of South Dakota and the South Dakota Science and Technology Authority, April 14, 2006.

6. Comply with requests from ORM for information and documents related to safety or compliance reviews, inspections or audits, including, to the extent available to SDSTA, any such reviews, inspections or audits related to activities in the Leased Space.

D. Agreement Administration. The cooperative undertaking herein described shall be administered by the Parties through their risk management contact persons: ORM through its Director and SDSTA through its Executive Director or authorized designees as contemplated in SDCL 1-24-5.

E. Reporting.

SDSTA employees may contact ORM directly and without risk of retaliation if they feel there is substantial risk of harm to persons or the environment that is not being addressed by SDSTA management.

F. Site Access Rules.

1. SDSTA will provide reasonable accommodations for ORM to have unencumbered access to SDSTA facilities and operations.
2. The parties acknowledge and agree that representatives of ORM conducting activities relating to this Agreement are “Authorized Entrants” as that term as used in the Property Donation Agreement.
3. Access to underground and other hazardous environments shall be provided in a manner that is reasonable and safe.

G. Right to Inspect.

1. ORM has the right to inspect SDSTA facilities at will and with no advance notification when there is reasonable cause.
2. ORM will otherwise provide reasonable notification in advance of scheduled visits.
3. ORM may require SDSTA to undertake third party inspections or oversight visits, or may contract for such inspection and oversight visits in its own right.
4. SDSTA will provide timely notifications to ORM when third party inspections or oversight visits are scheduled, and ORM may observe such third party inspections or oversight visits at ORM’s discretion.
5. Whether or not ORM participates in third party reviews or inspections, SDSTA will provide the results and any findings to ORM.

H. Payment of Costs.

SDSTA shall upon request reimburse ORM for extraordinary costs incurred by ORM in connection with ORM’s responsibilities hereunder. The term “extraordinary costs,” as used herein, means costs other than the fees and costs of third party consultants and inspectors, travel costs of ORM personnel, costs (including reasonable attorney fees) incurred in commencing or

maintaining enforcement actions and other, similar costs and expenses, but includes costs incurred in connection with out-of-state travel expenses incurred by ORM personnel in connection with this Agreement. ORM shall provide SDSTA with a written invoice for costs incurred by ORM under this Agreement. SDSTA will contest any portions of the invoice it deems unreasonable and pay any uncontested amount within 30 days of receipt of the invoice. SDSTA agrees to pay all uncontested costs and expenses within 45 day of receipt of invoice.

I. Indemnification and Insurance.

SDSTA shall indemnify and hold the State of South Dakota and its officers, agents and employees (“Indemnified Parties”) harmless from and against any and all claims, causes, actions or causes of action made or asserted against the Indemnified Parties arising out of related to ORM’s duties and responsibilities under this Agreement. SDSTA shall cause the Indemnified Parties to be named as additional insureds under SDSTA’s general liability policy. The limits of liability of SDSTA’s general liability policy shall not be less than \$75 million. SDSTA shall provide such proof of the existence and enforceability of the insurance required by this paragraph as ORM may from time to time reasonably request. Nothing in this paragraph H shall require SDSTA to indemnify ORM or its officers, employees or agents against any claims or losses resulting solely from the negligence or intentional acts of ORM or its officers, employees or agents.

J. Exclusion of Leased Space.

ORM hereby acknowledges receipt of a copy of the Lease. For so long as the Lease remains in force or the parties agree otherwise, ORM’s jurisdiction hereunder shall not include the Leased Space. ORM’s jurisdiction hereunder shall not include the Leased Space, but SDSTA and ORM shall continue to consult and cooperate concerning occupational safety and health related to the Leased Space.

K. Duration of Agreement.

This Agreement shall be in effect from July 1, 2017, through June 30, 2018.

L. Remedies - Enforcement.

ORM is entitled to all remedies reasonably necessary to carry out the terms of this Agreement and enforcement of the safety standards made applicable to SDSTA and its facilities by this Agreement. Without limiting the generality of the foregoing, ORM may pursuant to the terms of this Agreement issue an administrative order directing SDSTA to cease operations and/or close all or any portion of its facilities until such time as the violation giving rise to the administrative order has been resolved to ORM’s reasonable satisfaction.

M. Retention of Records.

Each party hereto agrees to retain all books, documents, papers, and records relating to the services and inspections provided for hereunder and for payment and reimbursements for expenses under this Agreement for a period of three years after termination of this Agreement. Such records shall be available for inspection at any reasonable time by personnel authorized therefore by the State of South Dakota.

N. Funding Out.

This Agreement depends upon the continued availability of appropriate funds and expenditure authority from the Legislature for this purpose. If for any reason the Legislature fails to appropriate funds or grant expenditure authority, or funds become unavailable by operation of law or federal funds reductions, this Agreement will be terminated by ORM. Termination for any of these reasons is not a default by the ORM nor does it give rise to a claim against ORM.

O. Nature of Agreement.

This Agreement is intended to be an agreement for services by a public agency as contemplated by SDCL 1-24-8. The parties acknowledge that no separate entity as contemplated by SDCL 1-24-4 is being created to implement this Agreement. This Agreement is intended to only to govern the rights and interest of the parties named herein. It is not intended to, does not and may not be relied upon to create any rights, substantial or procedural, enforceable at law by any third party in any matters, civil or criminal.

P. Governing Law-Venue.

This Agreement shall be governed by and construed in accordance with the laws of the State of South Dakota. Any lawsuit pertaining to or affecting this Agreement shall be venued in Circuit Court, Sixth Judicial Circuit, Hughes County, South Dakota.

Q. Notice.

Any notice or other communication required under this Agreement shall be in writing and sent to the address set forth above. Notices shall be given by and to the Director of ORM, and by and to the Executive Director of SDSTA, or such authorized designees as either party may from time to time designate in writing. Notices or communications to or between the parties shall be deemed to have been delivered when mailed by first class mail, provided that the notice of default or termination shall be sent by registered or certified mail, or, if personally delivered, when received by such party.

R. Filing of Agreement.

The parties acknowledge that the ORM will file a true copy of this Agreement with the Office of Attorney General and the Legislative Research Council within 14 days of the execution hereof, as required by SDCL 1-24-6.1.

S. Alterations and Entire Agreement.

Except as provided in section A. of this Agreement, no amendment, alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by both parties. No oral understanding or agreement not incorporated herein may be binding on any of the parties hereto. Terms expressly stated within the Agreement constitute the entire agreement between ORM and SDSTA. All other prior discussions, communications and representations concerning the subject matter of this Agreement are superseded by the terms of this Agreement, except as specifically provided herein.

T. Partial Invalidity.

In the event that any court of competent jurisdiction shall hold any provision of this Agreement unenforceable or invalid, such holding shall not invalidate or render unenforceable any other provision hereof.

U. Authorization of Agreement.

By the signature of their representatives below, ORM and SDSTA certify that approval of this Agreement by ordinance, resolution or other appropriate means has been obtained by that governmental body's governing body or officer pursuant to SDCL 1-24-3 and 1-24-6, and that the representative is authorized to sign on the party's behalf. A copy of any SDSTA authorizing resolution or ordinance is attached to this Agreement and incorporated herein by reference.

In Witness hereto the parties signify this Agreement by signatures affixed below:

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Mike Headley                      (Date)  
Executive Director  
South Dakota Science and Technology  
Authority

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Scott Bollinger                      (Date)  
Commissioner  
Bureau of Administration  
State of South Dakota

## 1.0 Work Place Safety

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
30 CFR 15	Requirements for Explosives
30 CFR 48	MSHA Training and Retraining of Miners
30 CFR 49	MSHA Mine Rescue Teams
30 CFR 56-58	MSHA Safety and Health Standards-Surface and Underground Metal Mines

## 2.0 Building Codes

18 USC Chapter 40	Explosives
ANSI Z358.1-2009	Emergency Eyewash and Shower Equipment
ANSI/ASHRAE 62-2004	Ventilation for Acceptable Indoor Air Quality
ASME	Boilers and Pressure Vessel Code (Sections I through XII including applicable Code Cases)
ASME B31.1 (i)	* Power Piping
ASME B31.2 (ii)	Fuel Gas Piping
ASME B31.3 (iii)	* Process Piping
ASME B31.4 (iv)	Pipeline Transportation Systems for Liquid Components
ASME B31.5 (v)	Refrigeration Piping and Heat Transfer Components
ASME	* Cranes and Hoist Standards
IBC 2009	Building Codes
NFPA 101	Life Safety Code
NFPA 110	Emergency and Standby Power Systems
NFPA 45	Fire Protection for Laboratories Using Chemicals
NFPA 520	Standard on Subterranean Spaces
NFPA 70 B	Recommended Practice for Electrical Equipment Maintenance
NFPA 70 E	Standard for Electrical Safety in the Workplace
NFPA 70	National Electrical Code
NFPA 780	Standard for the Installation of Lightning Protection Systems (and UL86A)
SD Lead City Ordinance	Occupational Noise Exposure
Fermilab Policy	Oxygen Deficiency Hazards (ODH)



### **3.0 Environmental and Waste Management**

10 CFR 1021	National Environmental Policy Act
40 CFR 112	Implementing Procedures Spill Prevention, Control and Countermeasure Procedures
40 CFR 260-279	Protection of Environment- Hazardous Waste Management System (Hazardous Waste Regulations)
40 CFR 262.11	Hazardous Waste Determination
40 CFR 273	Standard for Universal Waste Management
40 CFR 761	Polychlorinated Biphenyls (PCB)
40 CFR 280	Underground Storage Tanks
40 CFR 302 (CERCLA)	Designation, Reportable Quantities, and Notification
40 CFR 370	Hazardous Chemical Reporting, Community Right to Know
40 CFR 61, Subpart A	National Emissions Standards for Hazardous Air Pollutants
40 CFR 122	NPDES system Guidelines Establishing Test Procedures for the Analysis of Pollutants
49 CFR 171-180	Hazardous Materials Transportation Act
SD Article 12:62	Weed and Pest Control

### **4.0 SD-DENR: Codified Law**

34-44	Asbestos Abatement Training Project
34A-1	Air Pollution Control
34A-2	Water Pollution Control
34A-3A	Safe Drinking Water
34A-6	Solid Waste Management
34A-9	Environmental Impact of Government Actions
34A-11	Hazardous Waste Management
34A-13	Petroleum Inspection and Release Compensation
46-1	Definitions and General Provisions (Water Rights)
46-2A	Administrative Procedure for Appropriate Water
46-5	Appropriation of Water
46-6	Groundwater and wells

### **5.0 SD Administrative Rule:**

74:36	Air Pollution
74:31	Asbestos Control Program
74:50	Compliance Procedures for Water Pollution
74:54	Groundwater Quality

74:28	Hazardous Waste
74:32	Petroleum Inspection and Release Compensation
74:34	Regulated Substance Discharge
74:27	Solid Waste
74:51	Surface Water Quality
74:52	Surface Water Discharge Permits
74:55	Underground Injection Control
74:04	Water Hygiene
74:50	Compliance Procedures For Water Pollution Control
74:53	Water Supply and treatment Systems
74:21	Water Systems Operators
74:02	Water Rights

## 6.0 Reference Standards

ANSI 31.9-1996	* Building Services Piping
ANSI C2	National Electrical Safety Code
NFPA 10	Portable Fire Extinguishers
NFPA 13	Automatic Sprinklers
NFPA 14	Standpipe and Hose Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 55	Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks.
NFPA 72	National Fire Alarm Code

## 7.0 Additional Standards

The following are a selection of additional trade organizations and standards that may govern the SDSTA's selection and installation of products.

ACGIH Ventilation Manual  
Air Movement and Control Association (AMCA)  
The Air-Conditioning, Heating, and Refrigeration Institute (AHRI)  
American Concrete Institute (ACI) – ACI-318  
American Gas Association (AGA)  
American Institute of Steel Construction (AISC) – Manual of Steel Construction  
American National Standards Institute (ANSI)  
American Society for Testing and Materials (ASTM)  
American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)  
American Society of Mechanical Engineers (ASME)  
American Society of Plumbing Engineers (ASPE)  
American Society of Sanitary Engineering (ASSE)  
American Water Works Association (AWWA)  
Factory Mutual (FM)

Institute of Electrical and Electronics Engineers (IEEE)  
Insulated Cable Engineers Association (ICEA)  
Manufacturers Standardization Society (MSS)  
Mechanical Contractors Association of America (MCAA)  
National Electrical Contractors Association (NECA)  
National Electrical Manufacturers Association (NEMA)  
National Fire Protection Association (NFPA)  
National Institute of Standards & Technology (NIST)  
National Sanitation Foundation (NSF)  
Plumbing & Drainage Institute (PDI)  
Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Standards  
Underwriters Laboratories, Inc. (UL)  
Water Conditioning Foundation (WCF)  
Sanford Laboratory Subterranean Design Criteria (EHS-1000-L3-05)

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**SDSTA Policies and Procedures—Mr. Mike Headley / Mr. Tim Engel**

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12A. Annual review of SDSTA Policies and Procedures

- 2:4 Security and Site Access Policy, *updated (included badging language)*
- 2:5 Use of Company-Owned Information Technology Systems and Protection of Personal Privacy Policy, *updated (replaced “electronic equipment” to read “information technology systems”)*
- 3:8 Salary and Hourly Payroll Policy, *updated (included eligibility and conducting annual performance reviews)*
- 3:28 Delegation of Authority, *updated (added to address Fermilab’s concern that the language in A., B. and F gives the Exec Director/Board Chair/Board authority to act on their own to execute an action without clear separation of duties. Policy 5.6 addresses separation of duties)*
- 4:1 Personnel Benefits Policy, *updated (clarified wording in “Retirement” section (...benefits unchanged, Section K, added Employee Training, added Employee Assistance Program section—from employee handbook—corrected insurance coverage to read insurance ends last day of month)*
- 4:4 Leave Policy, *updated (per Exec Order 2017-2 updated sick leave accrual from 4.31 to 4.32 hours per bi-weekly pay period; policy to be ratified at June board meeting)*
- 4:6 Resignation Policy, *updated (added SDSTA property must be returned at time of resignation or termination...provided, however that doing so may not result in the employee receiving less than the applicable hourly minimum wage for the time period covered by the final paycheck. Any remaining dollar amount not covered in the final paycheck will be invoiced directly to the employee)*
- 5:1 Procurement Policy, *updated (deleted part of section C to address Fermilab’s concern that the first and second sentences conflict and the second sentence removed if nobody else can assume responsibility for negotiating....Approval is addressed separately in a separate policy)*
- 5.5 Utilization of Small Business Concerns Separation of Duties, *updated (removed all references to the FAR)*
- Nepotism Policy, *new (created from employee handbook)*
- Dress Code Policy, *new (created from employee handbook)*

12B. Board members to sign annual statements affirming compliance with Financial Conflict of Interest Policy 3:27, attached—return signed statements to Mandy Knight.

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**Recommended Action:**

*Motion to approve new and updated SDSTA policies as presented.*

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## South Dakota Science & Technology Authority

### Policies and Procedures Manual

**SUBJECT: Security and Site Access Policy**

**NUMBER: 2:4**

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The South Dakota Science and Technology Authority (SDSTA) is dedicated to the protection of its employees, visitors, users, contractors, facilities and assets, from any security threat affecting the SDSTA.

To successfully manage risk as it relates to security and site access, the SDSTA has prepared a set of guiding principles, which include the following:

- ~~To reduce security risks at all levels of the organization,~~
- To reduce security risks and integrate ~~safety and~~ security into all Sanford Lab daily work activities,
- To encourage a “risk-reduction culture” with a focus on security awareness,
- To prioritize security risk factors so that resources can be allocated effectively,
- To communicate with all parties performing work at and visiting Sanford Lab within and outside of the SDSTA to ensure that each knows its role and is aware of relevant security information, and
- To partner with parties involved in the hazardous materials transport chain for SDSTA-Sanford Lab activities.

Specialized security training will be required for all SDSTA employees whose job duties involve visitor processing, traffic, mail-handling and material loading.

The SDSTA ~~permits-allows~~ access to the site through controlled access points. All visitors, users and contractors must check-in daily with the Administration Building ~~receptionist~~front desk staff on duty; a government-issued photo identification is required. A temporary day badge, or visitor card, will be issued upon check-in and must be returned to the ~~receptionist~~front desk prior to leaving the premises. Those who require continuous daily access will be issued a permanent badge, ~~determined by the appropriate department head~~. Permanent badges are programmed by the Security Office of the Environment, Safety and Health Department based on location of work, completion of safety training and approval by the appropriate supervisor or department director.

Groups that consist of students under the age of 18 must be accompanied by an adult chaperone when visiting Sanford Lab. The adult ~~chaperone~~ is required to sign check-in upon arrival either at the meeting location or with the front desk receptionist, ~~and provide a government-issued photo identification.~~

For SDSTA all new employees, the Administrative Services Office will issue an ID badge during orientation on their first day of employment. A lost or damaged ID badge should be reported to the Administrative Services Office immediately.

Every SDSTA employee, visitor, user and contractor is To protect the safety and maintain the security of all employees and to secure the property, every employee is required to wear an identification badge at all times while on SDSTA premises~~Sanford~~

**SOURCE:** December 18, 2014 June 22, 2017 (This revision date supersedes all previous versions).

**2:4 Security and Site Access Policy**

Lab property. Because ~~employee~~ ID badges are also the means by which ~~employees~~ people enter and leave the premises, ~~employees~~ badge holders must not loan their badges to anyone including using their badge to ,including other employees, nor should employees use their badges to allow unauthorized personnel to anyone to enter the premises that the employee does not know to be an employee of the SDSTA. Failure to observe these safety regulations could endanger the safety and security of all other employees and the property at Sanford Lab.

The badge is the property of the SDSTA and must be returned upon termination of employment or when a visitor, user or contractor ~~or user~~ no longer requires site access.

Violation of this policy will subject the employee to disciplinary action up to and including termination at the sole discretion of the SDSTA.

A visitor log is maintained and a copy is submitted to the South Dakota Homeland Security/-Fusion Center each month. ~~Information in this log does not include~~ Personal information of visitors under the age of 18 is not included in the visitor log.



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

**SUBJECT:** Use of SDSTA-Owned ~~Electronic Equipment,~~Information Technology Systems and Protection of Personal Privacy Policy

**NUMBER:** 2:5

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The South Dakota Science and Technology Authority (SDSTA) has established guidelines designed to protect the SDSTA against improper use of company time, ~~electronic equipment and software~~information technology systems and to protect the privacy of employees. The SDSTA shall enforce those rules fairly and consistently to protect assets of the SDSTA and the personal privacy of its employees.

No software or hardware is to be installed on the SDSTA computers unless approved by the SDSTA Information Technology office.

All SDSTA employees are responsible for following the procedures outlined in 2:5A for the proper use of ~~electronic equipment,~~information technology systems and protection of personal privacy.

Violations of this policy will be considered serious, and may subject the employee to appropriate disciplinary action, up to and including termination, at the sole discretion of the SDSTA.

**SOURCE:** ~~December 18, 2014~~June 22, 2017 (This revision date supersedes all previous versions).  
2:5 Use of Company-Owned ~~Electronic Equipment,~~Information Technology Systems and Protection of Personal Privacy Policy,

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

**SUBJECT: Delegation of Authority—Procurement Policy**

**NUMBER: 3:28**

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- A. The South Dakota Science and Technology (SDSTA) Board of Directors reserves unto itself:
1. The sole authority to approve the annual Operating and Capital Expenditure budget.
  2. The sole authority to authorize the procurement process for any single contract, purchase order or other expenditure of \$5,000,000.00 or more.
  3. The sole authority to accept any single contract or award to SDSTA of \$5,000,000.00 or more.
  4. The sole authority to award any single budgeted contract, purchase order or other expenditure of \$5,000,000.00 or more.
  5. The sole authority to approve any single non-budgeted contract, purchase order or other expenditure of \$500,000.00 or more.
- B. The Board of Directors delegates the authority to approve other procurement and expenditures as follows:
1. The Chairperson shall have the authority to:
    - a. Authorize the procurement process for any single budgeted contract, purchase order or other expenditure of less than \$5,000,000.00.
    - b. Accept any single contract or award to SDSTA of less than \$5,000,000.00.
    - c. Award and execute any single budgeted contract, purchase order or other expenditure of less than \$5,000,000.00.
    - d. Approve, award and execute any single non-budgeted contract, purchase order or other expenditure of less than \$500,000.00.
  2. The Executive Director shall have the authority to:
    - a. Authorize the procurement process for any single budgeted contract, purchase order or other expenditure of less than \$2,500,000.00.
    - b. Accept any single contract or award to SDSTA of less than \$2,500,000.00.
    - c. Award and execute any single budgeted contract, purchase order or other expenditure of less than \$2,500,000.00.
    - d. Approve, award and execute any single non-budgeted contract, purchase order or other expenditure of less than \$250,000.00.
  3. The Lab Director shall have the authority to:
    - a. Authorize the procurement process for any single budgeted expense of less than \$250,000.00.
    - b. Accept any single contract or award to SDSTA of less than \$250,000.00.
    - c. Award and execute any budgeted contract or purchase order of less than \$250,000.00.

**SOURCE:** [June 22, 2017](#)~~September 22, 2016~~ (This revision date supersedes all previous versions).  
**3:28 Delegation of Authority—Procurement Policy**

- d. After consultation with the Chairperson, or if the Chairperson is unavailable, a Vice Chairperson, which consultation shall be documented by the Laboratory Director, exercise the procurement authority of the Executive Director when the Executive Director is unable to do so due to an actual or potential conflict of interest.
  - e. If the Executive Director and Lab Director positions are held by a single individual, the Chief Financial Officer shall have the authority of the Lab Director granted under this subsection B.3.
- 4. Department Directors and managers shall have the authority to:
  - a. Authorize the procurement process for any single budgeted expense of less than \$10,000.00.
  - b. Award and execute any budgeted contract or purchase order of less than \$10,000.00.
- C. All procurement shall take place in conformity with such federal, state, donor-imposed or other competitive bidding and other procurement laws or requirements as may be applicable to the funds and/or contract or purchase order in question. If no such laws or requirements apply, procurement shall be conducted in the manner most advantageous to the SDSTA, price and other factors considered.
- D. Nothing herein shall prohibit a person with a higher level of authorization to authorize procurements or expenditures within the [approval](#) authority of some other person with a lower level of authorization.
- E. Contracts, purchase orders and other expenditures may not be arbitrarily divided into smaller contracts, purchase orders or expenditures for the purpose of evading the authorizations provided for in this policy.
- F. Approval of a contract, purchase order or other expenditure as provided in this policy shall also act to authorize approval of bills, invoices, draw requests or other requests for payment under the approved contract, purchase order or other expenditure, provided that the bill, invoice, draw request or other request for payment is approved under a procedure adopted under this policy.
- G. Members of the Board of Directors, management and staff shall comply with the SDSTA's Financial Conflict of Interest Policy 3:27 at all times.
- H. This policy addresses only approval authority. As described in Policy 5:6 Separation of Duties, authority is distinct from purchasing, receiving and payment functions.

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

**SUBJECT: Salary and Hourly Payroll Policy**

**NUMBER: 3:8**

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Salaries and hourly wage rates for South Dakota Science and Technology Authority (SDSTA) employees shall be fixed by the Executive Director and may be reviewed by the Board of Directors.

For payroll purposes, the work week begins at 12 A.M. Saturday morning and ends at 11:59 P.M. the following Friday night.

- A. Salary exempt employees, as defined in Employment Policy 4:5, shall submit time/effort reports at the end of each pay period.
- B. Full-time, part-time and temporary hourly employees, as defined in Employment Policy 4:5, shall complete and sign a time sheet, which also serves as an effort report as needed, at the end of each pay period.
  - 1. Time worked during a regularly scheduled shift that begins on Friday and ends on Saturday will be credited as time worked during the Friday's work week. The scheduled shift will be credited to the calendar day in which the shift begins.
  - 2. Hourly employees who work in excess of forty (40) hours per week are eligible for overtime pay computed at time and one-half of the employee's regular hourly rate.
  - 3. Hourly employees are guaranteed a minimum of three (3) hours straight-time pay for inconvenience – call-out pay. The call-out provision will apply only when the work required was not arranged in advance with the employee.
  - 4. An 8-hour x 5 day or a 10-hour x 4 day work shift schedule for hourly employees will generally include a 30 minute lunch break. In certain cases, such as selected administrative positions, a 1-hour lunch break may be required to maintain staff coverage during business hours. Time for lunch breaks will not be compensated unless the employee is required to work during their break.
  - 5. A 12-hour rotating shift schedule for hourly employees will include compensation for lunch breaks due to the demands of working longer, rotating shifts.
- C. All employees entitled to overtime compensation under applicable federal law shall be paid for hours worked in excess of forty (40) per week as provided in Procedure 3:8A.
- D. All full- and part-time regular employees are eligible for an annual performance review and consideration for a merit pay increase. Merit increases are not guaranteed and will depend on individual performance and the availability of funds. Additional reviews may be conducted at times other than those routinely scheduled, depending on circumstances.

Payroll records and employee time cards shall be retained per Policy 3:31 Record Retention.

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

**SUBJECT: Personnel Benefits Policy**

**NUMBER: 4:1**

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It is the policy of the South Dakota Science and Technology Authority (SDSTA) to offer eligible employees a variety of benefit programs designed to help plan for retirement and to meet the financial burdens that can result from illness or disability. Eligibility for benefits is discussed in Policy 4:5 Employment.

- A. Life and Accidental Death & Dismemberment (AD&D) Insurance: Both employer-paid life and AD&D insurances are provided for each employee, with a \$50,000 benefit. Employees may purchase additional coverage at their own expense.
- B. Long-Term Disability: Employer-paid long term disability insurance is provided for each employee. Following a ninety (90) day waiting period, the monthly benefit consists of sixty percent (60%) of the first \$15,000 of monthly pre-disability earnings.
- C. Health Insurance: Employer-paid health insurance is provided for each employee. Employees may purchase dependent coverage through SDSTA's group plan. Based upon funding, the SDSTA may elect to help subsidize the cost of dependent coverage. The coverage and premiums vary from year to year.
- D. Dental: Employer-paid dental insurance is provided for each employee. Employees may purchase dependent coverage at their own expense. The coverage available varies from year to year.
- E. Vision: Employer-paid vision care is provided for each employee. Employees may purchase dependent coverage at their own expense. The coverage available varies from year to year.
- F. Medical Expense and Dependent Care Flexible Spending Accounts: Employees may make pre-tax contributions to a flexible spending account for qualified medical expenses not covered by an insurance plan and dependent care expenses.
- G. Paid Holidays: Ten (10) holidays per year plus any administrative holidays proclaimed by the Governor of South Dakota or the President of the United States:
  - New Years Day
  - Dr. Martin Luther King, Jr. Day
  - President's Day
  - Memorial Day
  - Independence Day
  - Labor Day
  - Native American Day
  - Veterans Day
  - Thanksgiving
  - Christmas

See additional details in Policy 4.3 Holidays.

- H. Longevity Pay: Full-time employees are eligible for longevity pay after seven (7) years of service. See Policy 4:4:4 Years of Service and Longevity Pay for complete details.

**SOURCE:** June ~~30, 2015~~**22, 2017** (This revision date supersedes all previous versions).  
**4:1 Personnel Benefits Policy**

I. Retirement:

1. South Dakota Retirement System (SDRS): ~~Employees are required to pay contribute 6% of their salary earnings (pre-tax) each month pay period into the SDRS beginning at their hire date of hire. Benefits are provided through the SDRS after three (3) years of credited service. Also, the SDSTA will also matches the six percent (6%) of the employee's contribution contribution each month pay period. Benefits are provided through the SDRS aAfter three (3) years of credited service~~ after three years of contributory service, the employee is entitled to a vested monthly lifetime retirement benefit. ~~Additional information is available at <http://www.sdrs.sd.gov/>. Employees are required to pay 6% of their salary into the SDRS beginning at their hire date.~~
2. SDRS Supplemental Retirement Plan: Employees may make additional pre-tax contributions through the SDRS Supplemental Retirement Plan. These contributions are not matched by the SDSTA.
3. Special Pay Plan: The SDSTA is a participating unit of the Special Pay Plan, which provides eligible employees with two types of tax-efficient savings options, as well as additional retirement benefits. Under the Special Pay Plan, eligible members' lump-sum termination payouts are permanently exempt from Social Security taxes and, in addition, are free from federal income taxation until withdrawn from the plan. A participant has the option to invest the funds and any earnings will grow tax deferred until distributed from the plan. Withdrawals may be in the form of a single, lump-sum payment or as additional monthly retirement benefits. ~~Additional information is available at <http://www.sdrs.sd.gov/spp/>.~~
4. Employees who have reached normal retirement age of 65 with at least three years of ~~credited contributory~~ service are eligible for unreduced retirement benefits under the SDRS. Normal retirement is the first of the month of the employee's 65<sup>th</sup> birthday. However, there is no mandatory retirement age at the SDSTA.
- 4.5. ~~Early Retirement: Employees may retire as early as age 55 and receive retirement benefits if they have with at least three years of contributory service. If payments begin immediately, the employee's monthly lifetime retirement benefits will be reduced.~~
6. ~~Disability: If an employee is unable to work because of a disability expected to last one year or longer, they may be eligible to receive a monthly benefit from SDRS. Employees have several opportunities to retire before the normal retirement date, depending on age and years of service. The SDRS also provides disability coverage for employees who have three years of credited consecutive contributory service. However, if the or for employee iss who are accidentally disabled while performing the usual duties of their job, they are immediately eligible to apply for benefits. The Eemployee must be a contributing member at the time they become disabled. s unable to work because of a disability expected to last one year or longer may be eligible to receive a monthly benefit from SDRS. For additional information regarding retirement benefits, contact the SDRS.~~



5- Additional information regarding retirement benefits is available at <http://www.sdrs.sd.gov/spp/>.

J. Social Security: As mandated by law.

J.K. Training/Professional Development: The SDSTA does not have an education or tuition assistance program. However, the Department Director and/or Executive Director of the SDSTA may determine the need for a variety of training for all or selected employees which may include professional development training, computer training, safety training, certifications, license exams and other work-related training opportunities. Employees are required to complete Aana -consent approval form must be completed and signed by which and it must -be approved by the Department Director and/or Executive Director prior to any training/professional development commitments. The time employees spend taking either mandatory or supervisor recommended training is considered time worked. Employees will be reimbursed for the cost of training or any other professional development fees that are job-related if approved by the department/division director.

Fees for training/professional development are not automatically reimbursed.

Professional memberships/certifications/licenses or renewals that are work-related will be reimbursed at the discretion of the Department Director and/or the Executive Director. In cases where a fee exceeds \$1,000.00, and an employee voluntarily leaves the employ of the SDSTA within one (1) year following training/certification, the employee shall repay all such training-related expenses paid by the SDSTA. Exceptions may be made for an employee unable to continue due to illness or injury, dismissal or a reduction in workforce. -An employee's obligation to reimburse SDSTA as provided in this paragraph may not be enforced by withholding salary if doing so would result in the employee's salary being less than the applicable minimum wage.

L. Employee Assistance Program: The Employee Assistance Program ("EAP") was established to provide professional, confidential assistance for any type of personal problem such as alcohol and other substance abuse, marital and family difficulties, financial and legal troubles and emotional distress.

All full-time employees and their dependents are eligible to receive assistance through the EAP to assess problems, provide short-term counseling and, if necessary, make a referral to appropriate community and private services. The EAP will not reveal any information that the individual discloses to the EAP except in the following circumstances:

- The employee consents in writing
- The law requires disclosure, or
- It is believed that life or safety is threatened by non-disclosure

Employees are responsible for their performance and for taking constructive action to resolve any personal problems that affect or threaten to affect their on-the-job behavior. -Managers and supervisors are responsible for remaining alert to all instances of substandard work performance and bringing these instances to the



attention of the employee, along with an offer of assistance, at the earliest indication of a problem.

When an employee's job performance or attendance is unsatisfactory or there appears to be signs of other problems during the work day, the supervisor should counsel the employee in consultation with Human Resources. -If an employee appears to be unable or unwilling to correct the situation, he or she may be referred to the EAP to assist in the resolution of the problem. -Depending on the situation, the employee may accept or refuse participation in the EAP. -However, there may be situations where continued employment with the SDSTA Authority may be contingent upon the employee calling the EAP for assistance. Participation in the EAP in no way relieves the employee of the responsibility to meet acceptable work performance and attendance standards.

K- Employees who need to visit the EAP during regular working hours must use vacation or sick leave benefits, if available. -If illness is involved, sick or vacation benefits or unpaid time off may be used on the same basis that it is granted for other health problems.

L.M. Workers' Compensation: As required by law. If injured, an employee must notify his or her supervisor immediately. All injuries must be reported to the Environment, Health, and Safety Department and a First Report of Injury completed and signed within three (3) days of the injury. Failure by the employee to report an injury on time may result in denial of the claim.

Employees should refer to the insurance summary plan description provided at the benefit enrollment meeting for details of each insurance plan or contact the Human Resources Administrator. Eligibility for specific benefits under the SDSTA's insurance program is governed at all times by the complete terms of the respective group insurance policy.

The SDSTA's benefit programs are subject to change without notice. Employees should contact the Human Resources Administrator for details concerning any of their benefit plans.

An employee's medical, dental, vision and life insurance will ~~terminate-cease on the last day of the month of termination on his/her last day of work.~~ Continuation of Benefits, which include medical, dental and vision, may be available under Title X of the Consolidated Omnibus Budget Reconciliation Act (COBRA) Law of 1985 upon termination. The employee must contact the Human Resource Administrator if continued coverage is desired.

Vacation and sick leave benefits are described in Policy 4:4 Leave.

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

**SUBJECT: Leave Policy**

**NUMBER: 4:4**

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It is the policy of the South Dakota Science and Technology Authority (SDSTA) that all leave accruals shall commence from the employee's first date of service.

**A. Vacation Leave:**

1. Only full-time employees (including probationary full-time employees) will accumulate leave credits of 4.62 hours per bi-weekly pay period and may accumulate a maximum of twice the annual accrual. When an employee completes 15 years of service, the employee will receive 6.16 hours of leave credits per bi-weekly pay period, and may accumulate a maximum of twice the annual accrual. Vacation leave may be granted for vacation or to supplement other permitted and authorized leaves of absence.
2. Salaried employees will not be required to use vacation leave while traveling when the purpose of the trip is specifically for SDSTA business. When SDSTA business is incidental to the trip, vacation leave will be required.
3. Upon retirement or resignation, only full-time employees with 180 days of continuous service will be paid for accumulated vacation leave. Vacation cannot be used to extend employment beyond the last actual day of work.

**B. Sick Leave:**

1. Full-time employees accumulate sick leave credits of 4.3~~24~~ hours per bi-weekly pay period without a maximum limitation. Sick leave may be granted for personal illness or disability, pregnancy of the employee or the employee's spouse, exposure to a contagious disease that would endanger the health of co-workers, eye and dental care, required medical examinations, counseling or treatment at approved centers for alcohol or drug abuse or psychiatric care. There is no minimum period of employment before sick leave may be used.

**C. General provisions for the accumulation and use of vacation and sick leave:**

1. Effective June 23, 2011, for all new hires, accumulated hours of sick leave can be carried over from the State of South Dakota to the SDSTA only at the discretion of the Executive Director. With approval, only those hours that have not been paid out by the State of South Dakota will be credited as a beginning balance at the SDSTA. Documentation to verify hours not paid by the state must be provided in writing to the SDSTA. These hours will be used only after hours accrued through employment with the SDSTA have been used.
2. Requests for leave must be submitted to the employee's supervisor in advance and in writing. When the circumstances do not permit the prior

**SOURCE:** ~~June 22, 2017~~[December 15, 2016](#) (This revision date supersedes all previous versions).  
**4:4 Leave Policy**

submission of requests for leave, the request must be submitted as soon as is conveniently possible upon the employee's return to work.

3. Employees terminated during the probationary period will not be paid accrued vacation leave.
  4. Employees may not use more vacation leave than they have accumulated.
  5. Requests for leave other than sick leave must be approved by the employee's immediate supervisor prior to the requested departure time.
  6. Employees must notify their supervisor of illness prior to the start of their work shift.
  7. Any time absent from the job without prior authorization or notification may at the supervisor's discretion be considered absence without leave, for which the employee may not use sick or vacation leave and will not be paid. Unauthorized or unreported absences may be cause for disciplinary action.
  8. Upon an employee's resignation, retirement, or dismissal from employment because of reduction in staff, 25 percent of accumulated sick leave, up to a maximum of 480 hours, will be paid to such employee but only if the employee has been employed with the SDSTA continuously for at least 7 years, measured from the first date of employment. The accumulated leave will be paid at the pay rate as of the employee's last date on the payroll. In the case of dismissal other than a reduction in staff, no payment for accumulated sick leave will be made. For the purpose of this subsection, employment with the State of South Dakota immediately preceding employment with the SDSTA shall count toward the 7-year requirement for payment of accumulated sick leave.
- D. Personal Leave: If necessary, full-time employees may use up to 40 hours per year (state fiscal year, July 1–June 30) of accumulated sick leave for personal leave. The leave may be used for:
1. A death in the immediate family (defined as father, mother, spouse, children, mother-in-law, father-in-law, son-in-law, daughter-in-law, brothers, sisters, grandparents, grandchildren, step-children, step-parents or foster children).
  2. The temporary care of members of the immediate family.
  3. The birth or adoption of a child.
  4. Volunteer police or rescue work.
  5. A call to active duty of military reserve or National Guard members.
- E. Family and Medical Leave Act ("FMLA"): The Family and Medical Leave Act of 1993 provides eligible employees with up to 12 weeks of unpaid, job-protected family and medical leave ("FML") during a calendar year for certain family and medical reasons or up to 26 weeks for a family caregiver of an injured or ill service member. Employees are eligible if they have worked for at least one year and for 1,250 hours over the previous 12 months.
1. Reasons for Taking Leave. FML must be granted for any of the following reasons:

- a. To care for the employee's child after birth or placement for adoption or foster care (the employee is eligible to use this leave anytime within 12 months of the birth or placement);
  - b. To care for the employee's spouse, son or daughter (who is under eighteen years old, unless the son or daughter is not capable of self-care due to mental or physical disability), or parent, who has a serious health condition;
  - c. For a serious health condition that makes the employee unable to perform the employee's job;
  - d. Due to circumstances arising out of the fact that a covered military member (a spouse, son, daughter or parent) is on active duty or called to active duty status (e.g.: short- notice deployment, military events and related activities, childcare and school activities, making financial and legal arrangements, counseling, rest and recuperation, and post-deployment activities); or
  - e. To care for a family member (spouse, son, daughter, parent or next of kin) who incurred a serious injury/illness as a result of active military service (up to 26 weeks combined FML leave in a single 12-month period).
2. Paid Versus Unpaid Leave –
- a. Non-Worker's Compensation: Employees are required to use their paid leave, up to a maximum of 12 weeks, prior to taking leave under FML. FML will follow consecutively for an additional 12 weeks (and up to 26 weeks for a family caregiver of an injured or ill service member). If the employee has less than 12 weeks of paid leave available, the FML period will start once the paid leave is exhausted. If the employee has paid leave remaining available after the initial 12 weeks required to be used, the employee may use the remaining available paid leave during the FML period. To use paid leave before or during the FML period, the employee must have leave available and must meet all the leave requirements of that particular type of paid leave; for example, sick leave can only be used for the employee's *own* illness.
  - b. Worker's Compensation: Employees receiving temporary partial disability or temporary total disability benefits may take up to 10 hours of paid leave per week in addition to their worker's compensation benefits; provided, however, that the sum of the net (after payroll deductions) paid leave and workers compensation benefits may not exceed the net (after payroll deductions) salary to which the employee would be entitled if the employee were not receiving worker's compensation benefits. If the condition giving rise to the payment of workers compensation benefits constitutes a qualifying serious illness or injury under FML, then the absence shall be deemed leave under FML and the employee shall be so notified in writing. If after the FML 12-week period, the employee is unable to return to work, the employee's job is no longer protected pursuant to the FML.
3. Advance Notice and Medical Certification – Except as otherwise provided herein, Employees must provide advance notice of request for FML and

SOURCE: [June 22, 2017](#)~~December 15, 2016~~ (This revision date supersedes all previous versions).  
4:4 Leave Policy

appropriate proof of need for leave relating to a medical condition. Leave may be denied or delayed if these requirements are not met. The employee ordinarily must provide 30 days advance notice when the leave is foreseeable. In other circumstances, the notice must be given as soon as practicable. The SDSTA may require medical certification to support a request for leave because of a serious health condition, second or third opinions, periodic recertification, periodic reports regarding the employee's status and intent to return to work, and a fitness for duty report to return to work. Failure to provide this information may result in the denial of leave or other disciplinary action.

4. Job Benefits and Protection:

- a. During FML, the SDSTA will maintain the employee's health insurance coverage at the same cost to the employee as if the employee was on the job. Any other benefits for which the employee may be eligible will also be maintained, but the employee shall remain responsible for the usual cost of such benefits. If the employee is on leave without pay, the employee must contact the Human Resources Office to make arrangements for the timely payment of premiums.
- b. Upon return from FML, employees other than certain highly-compensated employees will be restored to their original position or a position with equivalent pay, benefits and other employment terms.
- c. The use of FML will not result in the loss of any employment benefit that accrued prior to the start of an employee's leave.
- d. The SDSTA may recover its share of insurance premiums if the employee fails to return after taking leave under certain circumstances.

5. Failure to Return to Work – If an employee fails to return to work after FML is exhausted, the employee may be subject to disciplinary action or termination due to inability to perform the essential functions of the job.

6. To the extent any provision of this Section E is inconsistent with the terms of the Family and Medical Leave Act as applicable at the time of the FML, the terms of the Family and Medical Leave Act shall govern.

7. Within five days of a request for FML leave or when SDSTA acquires knowledge that leave may be for an FML-qualifying reason, the SDSTA shall give persons whose leave is deemed FML leave eligibility notice and rights and responsibilities notice as required by FML.

F. Court and Jury Leave: Full-time and probationary employees are eligible for court and jury leave. The employee shall immediately notify the employee's supervisor if the employee expects to be absent from work due to the court and jury obligations. Absences will be administered as follows:

1. Testifying in official capacity – If the employee is subpoenaed by either party to testify in any civil or criminal proceeding because of the employee's official capacity or is instructed by the supervisor to testify in an official capacity without being subpoenaed, the employee shall receive the employee's regular salary without loss of leave credits and may receive actual expenses according to state rates, but may not receive witness fees. The employee's

supervisor and the SDSTA shall determine if the employee is testifying in an official capacity.

2. Subpoenaed to testify in non-official capacity – If an SDSTA employee is subpoenaed to testify in court in a non-official capacity and is not a party to the case, the employee shall receive the employee's regular salary from the SDSTA without loss of leave credits for the time spent testifying during regular working hours and may receive in accordance with SDCL 19-5-1 or any comparable federal law, witness fees and mileage from the party who issued the subpoena. However, the employee may not take court and jury leave for travel time or time when the employee is not reasonably expected to testify regardless of whether the employee has been subpoenaed for that period of time. If the employee is absent from the workplace while not testifying, the employee must use vacation leave or leave without pay. This leave must be requested in advance and is subject to the supervisor's approval.
  3. Party or witness not subpoenaed to testify – If an employee is a party to or witness who has not been subpoenaed, the employee must use vacation leave or leave without pay. This leave must be requested in advance and is subject to the supervisor's approval.
  4. Service on jury – If an SDSTA employee is summoned to serve on a jury, the employee shall receive the employee's regular salary without loss of leave credits for the time spent on jury duty during regular working hours and shall be entitled to retain the per diem and mileage provided for by SDCL 16-13-46 or any comparable federal law.
  5. The Executive Director is the final arbiter of whether an employee is eligible for court and jury leave.
- G. Military Training Leave: Full-time employees are entitled to military training leave of up to 15 days per calendar year. Employees requesting military training leave for must obtain a written certification from the commander of their reserve or National Guard unit indicating dates of the training period. This notice is to be submitted to the employee's supervisor at least 15 calendar days prior to the date of the employee's departure for training.
- H. Leave of Absence Without Pay: Prior permission must be obtained from the employee's supervisor to take a leave of absence without pay. If an employee has paid leave accumulated, the employee must use that before leave without pay is granted (see Policy 2:15 Absenteeism and Tardiness). While on leave without pay, employees will not accumulate leave credits and they must make provisions to pay for their own voluntary payroll deductions.
- I. Absence Without Leave: Unauthorized and unreported absences may result in a deduction of pay and may be cause for disciplinary action. Employees must report the reason for any absence to their supervisor as soon as possible.
- J. Exceptions:
1. The Executive Director may grant specific employees leave in addition to or different than that provided for in this policy if the Executive Director deems

such changes necessary to hire or retain a key employee. All exceptions will be made in writing.

2. Vacation leave granted by the Executive Director may be accumulated to a maximum of twice the annual accrual.



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

**SUBJECT: Resignation Policy**

**NUMBER: 4:6**

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It is the policy of the South Dakota Science and Technology Authority (SDSTA) to request written notice at least two weeks prior to the date the employee plans to resign. Written notice should be submitted to the employee's immediate supervisor or the Human Resources Administrator.

It is the policy of the SDSTA to respond only to written requests for personal references. The Human Resources Administrator is designated to respond to all such requests.

Basic information can be released to persons who have a legitimate need to receive such information. Basic information includes the former employee's name, job title, and dates of employment; rehire eligibility shall not be disclosed. Salary history may be provided only with the former employee's written authorization.

Any SDSTA property, i.e., information technology equipment or software, computer equipment, identification security badge, cell phone, blackberry, keys, tools, safety equipment, etc. must be returned at the time of resignation or termination. It is the employee's responsibility for any lost or damaged items. The value of any property issued and not returned may be deducted from the employee's final paycheck; provided, however that doing so may not result in the employee receiving less than the applicable hourly minimum wage for the time period covered by the final paycheck. Any remaining dollar amount not covered in the final paycheck will be invoiced directly to the employee.



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

**SUBJECT: Procurement**

**NUMBER: 5:1**

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It is the policy of the South Dakota Science and Technology Authority (SDSTA) to procure goods and services through a competitive process to the maximum extent possible and when feasible given the circumstances. Procurement shall take place in conformity with such federal, state, donor-imposed or other competitive bidding and other procurement laws or requirements as may be applicable to the funds and/or contract or purchase order in question. If no such laws or requirements apply, procurement shall be conducted in the manner most advantageous to the SDSTA, price and other factors considered.

- A. Scope – This policy covers the negotiation and contracting for all goods and services obtained by the SDSTA.
- B. Applicability – This policy applies to all employees and others who acquire goods and services on behalf of SDSTA.
- C. Responsibility – Procurement personnel are responsible for all negotiations on contracts and purchase orders; this authority cannot be assumed by other SDSTA personnel. ~~Procurement personnel do not possess authority to commit the SDSTA, however, and personnel are instructed to exercise restraint and discretion in communications with potential bidders, contractors, or vendors to ensure their comments are not construed as commitments on behalf of the SDSTA.~~
- D. Authority – Signature authority for procurements at various dollar amounts as delegated are set out in Policy 3:28 Delegation of Authority – Procurement, and are hereby incorporated by this reference.

~~SOURCE: ASOURCE: June 22, 2017 (This revision date supersedes all previous versions).~~  
~~dopted December 12, 2013~~

5:1 Procurement Policy

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

**SUBJECT: Utilization of Small Business Concerns**

**NUMBER: 5:5**

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It is the policy of the South Dakota Science and Technology Authority (SDSTA) to encourage maximum practicable opportunities for small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, [Historically Underutilized Business Zone \(HUBZone\)](#) small business concerns, small disadvantaged business concerns, and women-owned small business concerns to compete for and participate in the performance of subcontracts let by SDSTA [if required under a federally-funded binding agreement or other applicable law.](#)

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

**SUBJECT: Dress Code Policy**

**NUMBER:**

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**DRESS CODE**

It is the policy of the South Dakota Science and Technology Authority (SDSTA) that employees maintain professional personal appearance and dress appropriately for their job function and work environment.

The SDSTA is generally a casual dress environment. Employees are expected to use good judgment and to show courtesy to their co-workers by dressing in a manner that is professional and appropriate for the work activity.

A representative (but not exhaustive) list of clothing deemed inappropriate is as follows:

- Tattered or torn jeans or pants
- Shorts (capris are allowed)
- Shirts with language or graphics that are vulgar, sexually explicit or may otherwise be offensive to a reasonable person
- Attire that is revealing or provocative (such as see-through blouses, sports bras, halter tops, underwear worn as outerwear, mini-skirts or clothing that shows bare midriffs)
- Sweatsuits or jogging suits
- Beach-style flip-flops

There may be situations requiring more formal attire. If an employee is conducting or attending meetings, seminars, reviews, or similar events, the employee is expected to represent the SDSTA in a professional manner and dress appropriately for conducting such business.

**JEWELRY/TATTOOS/PIERCINGS**

Employees may wear tasteful jewelry in moderation. The size and/or number of earrings, rings, necklaces and bracelets may be determined at the department level based on specific job functions, operational and safety factors. Where job duties present any type of safety risk, jewelry may be prohibited or severely limited. In other areas, moderate (including size and amount) jewelry may be worn.

SDSTA permits employees to display jewelry, tattoos and body piercings at the workplace within the following guidelines. Factors that management will consider to determine whether jewelry, tattoos or piercings may pose a conflict with the employee's job or work environment include:

1. Personal safety of self or others, or damage to SDSTA property.
2. Productivity or performance expectations.

3. Offensive to co-workers, visitors, contractors or others in the workplace, such as jewelry or tattoos that promote racism/discrimination, indecency, extremist or supremacist philosophies, or violence, or that contain sexually explicit material.

## **ENFORCEMENT/ACCOMMODATIONS**

The SDSTA wishes to provide a work environment that is free of safety hazards, offensive behavior or harassment of any kind. The SDSTA reserves the right to send any person home to change clothes who violates any part of the dress code. The time spent away from work for this reason will follow the Absenteeism and Tardiness Policy. Where an employee's clothing is questionable, the supervisor or manager has first discretion.

If an employee has any questions as to appropriate dress, they can check with their immediate supervisor. If the above policy causes religious concerns or concerns based upon any other legally protected class, please contact the Human Resource office to discuss whether an accommodation is appropriate or reasonably available.

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

**SUBJECT: Nepotism and Employee Dating Policy**

**NUMBER:**

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**NEPOTISM**

It is the policy of the South Dakota Science and Technology Authority (SDSTA) to hire and promote based on an individual's experience, knowledge, skills, and abilities and avoid circumstances of favoritism and discrimination. However, relatives of persons currently employed by the SDSTA may be hired only if they will not be working under or over a relative within a reporting chain and are not likely to be in such a position in the future.

If already employed, affected employees will not be transferred or promoted into such a reporting chain relationship. If the employees become relatives after employment, management will implement any appropriate transfer or termination decision that may be necessary after consulting with the affected employees.

In cases where a conflict or the potential for conflict arises, one or both parties may be separated by reassignment or terminated from employment if appropriate reassignments are unavailable or declined.

For the purpose of nepotism, a relative is defined to include parents, children, siblings, brothers- and sisters-in-law, fathers- and mothers-in-law, sons and daughters-in-law, step-relatives or an individual who has acquired any of the above status through marriage.

**EMPLOYEE DATING**

The SDSTA strongly believes that an environment where employees maintain clear boundaries between personal and business interactions is most effective for conducting business. Although this practice does not prevent the development of friendships or romantic relationships between co-workers, it does establish very clear boundaries as to how relationships will progress during working hours and within the working environment.

Individuals in supervisory relationships or other influential roles are subject to more stringent requirements under this practice due to their status as role models, their access to sensitive information, their control over others, and their ability to influence others.

1. During working time and in working areas, employees are expected to keep personal exchanges limited so that others are not distracted or offended by such exchanges and so that productivity is maintained.
2. During non-working time, such as lunches, breaks and before and after work periods, employees are not precluded from having appropriate personal conversations in non-work areas as long as their conversations and behaviors

could in no way be perceived as offensive or uncomfortable to a reasonable person.

3. Employees are strictly prohibited from engaging in physical contact that would in any way be deemed inappropriate by a reasonable person while anywhere on SDSTA premises, whether during working hours or not.
4. Employees who allow personal relationships with co-workers to affect the working environment may be subject to disciplinary action. Interference with the professional work environment or the productivity of employees will be addressed through the Progressive Discipline Policy.
5. Supervisors, managers or anyone else in sensitive or influential positions must disclose the existence of any relationship with a co-worker that has progressed beyond a platonic friendship. Disclosure may be made to the immediate supervisor or the Human Resources office. This disclosure will enable the organization to determine whether any conflict of interest exists because of the relative positions of the individuals involved.
6. Where problems or potential risks are identified, the SDSTA will work with the parties involved to consider options for resolving the conflict. The initial solution will be to make sure that the parties involved no longer work together on matters where one is able to influence the other or take action for the other. Matters such as hiring, firing, promotions, performance management, compensation decisions, financial transactions etc. are examples of situations that may require reallocation of duties to avoid any actual or perceived reward or disadvantage.
7. In some cases, more extreme measures may be necessary such as transfer to other positions or departments. The individual with the more senior position will be considered for transfer first to avoid any perception of retaliation against the less senior person. If transfer to another position is unavailable or unreasonable one or both of the employees may be terminated.
8. Refusal of reasonable alternative positions, if available, will be deemed a voluntary resignation.
9. Continued failure to work with the SDSTA to resolve such a situation in a mutually agreeable fashion may result in disciplinary action, up to and including termination of employment at the sole discretion of the SDSTA.

The provisions of this policy apply regardless of the sexual orientation or gender identity of the parties involved. Any employee who feels they have been disadvantaged because of this policy, or who believes this policy is not being adhered to, should contact the Human Resources office or their supervisor.

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

**SUBJECT: Financial Conflict of Interest Policy**

**NUMBER: 3:27**

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**Article I**

**Purpose**

The purpose of the Financial Conflict of Interest Policy is to protect the South Dakota Science and Technology's (SDSTA's) interest when it is contemplating entering into a transaction or arrangement that might benefit the private interest of a Board Member, officer, or employee. A financial interest is not necessarily a conflict of interest. Under Article III, Section B of this policy, a person who has a financial interest may have a conflict of interest only if the Board of Directors decides that a conflict of interest exists.

This policy is intended to supplement, but not replace, any applicable state and federal laws governing conflicts of interest which are applicable to the SDSTA.

**Article II**

**Definitions**

- A. Interested Person: Any officer, employee, Director or member of a committee with powers delegated from the Board of Directors, who has a direct or indirect financial interest, as defined below, is an Interested Person.
- B. Financial Interest: A person has a Financial Interest if the person has, directly or indirectly, through business (including membership in a partnership or limited liability company or ownership of stock in a corporation), investment or a member of the person's immediate family:
  - 1. An ownership or investment interest in any entity with which the SDSTA has a transaction or arrangement;
  - 2. A compensation arrangement with the SDSTA or with any entity or individual with which the SDSTA has a transaction or arrangement; or
  - 3. A potential ownership or investment interest in, or compensation arrangement with, any entity or individual with which the SDSTA is negotiating a transaction or arrangement.
- C. Compensation: Compensation includes direct and indirect remuneration as well as gifts or favors that are not insubstantial.

**Article III**

**Procedures**

- A. Duty to Disclose: In connection with any actual or possible conflict of interest, an Interested Person must disclose the existence of the financial interest and be given the opportunity to disclose all material facts to the Board of Directors considering the proposed transaction or arrangement.

**SOURCE: December 10, 2015 (This revision date supersedes all previous versions).**  
**3:27 Financial Conflict of Interest Policy**

- B. Determining Whether a Financial Conflict of Interest Exists: After disclosure of the Financial Interest and all material facts, and after any discussion with the Interested Person, the person shall leave the Board of Directors meeting while the determination of a conflict of interest is discussed and voted upon. The remaining members of the Board of Directors shall decide if a conflict of interest exists.
- C. Procedures for Addressing the Financial Conflict of Interest:
1. An Interested Person may make a presentation at the Board of Directors meeting, but after the presentation, the person shall leave the meeting during the discussion of, and the vote on, the transaction or arrangement involving the possible conflict of interest.
  2. The Chairperson shall, if appropriate, appoint a disinterested person or committee to investigate alternatives to the proposed transaction or arrangement.
  3. After exercising due diligence, the Board of Directors shall determine whether the SDSTA can obtain with reasonable efforts a more advantageous transaction or arrangement from a person or entity that would not give rise to a conflict of interest.
  4. If a more advantageous transaction or arrangement is not reasonably possible under circumstances not producing a conflict of interest, the Board of Directors shall determine by a majority vote of the disinterested Directors whether the transaction or arrangement is in the SDSTA's best interest, for its own benefit, and whether it is fair and reasonable. In conformity with the above determination, it shall make its decision as to whether to enter into the transaction or arrangement.
- D. Violations of the Financial Conflict of Interest Policy
1. If the Board of Directors has reasonable cause to believe a person has failed to disclose actual or possible conflicts of interest, it shall inform the person of the basis for such belief and afford the member an opportunity to explain the alleged failure to disclose.
  2. If, after hearing the person's response and after making further investigation as warranted by the circumstances, the Board of Directors determines the person has failed to disclose an actual or possible conflict of interest, it shall take appropriate disciplinary and corrective action.

## **Article IV**

### **Contracts Supported by Federal Funds**

- A. Participation in Award or Administration: Anything in this Policy to the contrary notwithstanding, no employee, officer, Board Member, or agent of the SDSTA shall participate in the selection, or in the award or administration of, a contract supported by federal funds if disqualified pursuant to the terms of this Article IV.
- B. Disqualification: A person is disqualified if the person, any member of his immediate family or a business partner, associate, or co-owner of the person has a financial or other interest in the firm selected for the award. A person is not disqualified if his direct or indirect interest in the firm is insubstantial, such as in the case of ownership of an insubstantial amount of stock in a publicly-traded corporation. The Board of



Directors may determine whether other interests are insubstantial on a case-by-case basis.

- C. No Gratuities: Neither the SDSTA nor any employee, officer or Board Member shall accept any gratuity, favor of anything of monetary value from a contractor, potential contractor, or parties to sub-agreements. This Policy does not prohibit the acceptance of gifts of nominal intrinsic value, such as business meals.

## **Article V**

### **Records of Proceedings**

The minutes of the Board of Directors and all committees with Board-delegated powers shall contain:

- A. The names of the persons who disclosed or otherwise were found to have a Financial Interest in connection with an actual or possible conflict of interest, the nature of the Financial Interest, any action taken to determine whether a conflict of interest was present, and the Board's decision as to whether a conflict of interest in fact existed.
- B. The names of the persons who were present for discussions and votes relating to the transaction or arrangement, the content of the discussion, including any alternatives to the proposed transaction or arrangement, and a record of any votes taken in connection with the proceedings.

## **Article VI**

### **Compensation**

- A. Board of Directors: A member of the Board of Directors who receives compensation, directly or indirectly, from the SDSTA for services is precluded from voting on matters pertaining to that member's compensation.
- B. Committees: A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the SDSTA for services is precluded from voting on matters pertaining to that member's compensation.
- C. Information Concerning Compensation: No member of the Board of Directors or voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the SDSTA, either individually or collectively, is prohibited from providing information to any committee regarding compensation.

## **Article VII**

### **Annual Statements**

Each Director, principal officer, and member of a committee with Board-delegated powers shall annually sign a statement which affirms such person:

- A. Has received a copy of the Financial Conflict of Interest Policy;
- B. Has read and understands the policy; and
- C. Has agreed to comply with the policy.

**South Dakota Science and Technology Authority**  
**Statement**

In accordance with Article VII of the Financial Conflict of Interest Policy 3:27, this statement affirms that the undersigned:

- a. Has received a copy of the Financial Conflict of Interest Policy,
- b. Has read and understands the policy, and
- c. Has agreed to comply with the policy.

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*Signature*

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*Date*

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*Printed Name*

**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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*See recommended motion below...*

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**Recommended Action:**

*“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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**SDSTA Business Advisory Council Proposal Update—Vice-Chairperson Mr. Ron Wheeler**

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At the March 16, 2017 Chairperson Peterson appointed a committee made up of Mr. Christen, Mr. Headley and Mr. Wheeler to study the business advisory council proposal and bring it back to the board before December. Mr. Wheeler will provide an update at this meeting.

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**Recommended Action:**  
*Informational.*

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**Report on Nominating Committee—Mr. Dana Dykhouse**

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**Nominating Committee Report**

May 10, 2017

**Participants:**

Mr. Dana Dykhouse, SDSTA Board of Director and Nominating Committee Chair

Dr. Ani Aprahamian, SDSTA Board of Director and Nominating Committee Member

Mr. Dykhouse and Dr. Aprahamian communicated as the nominating committee on May 10, 2017 for the purpose of nominating the slate officers for the 2017-2018 board year. The slate of officers is as follows:

Chairperson: Mr. Casey Peterson

Vice-Chairperson: Mr. Dana Dykhouse

Vice-Chairperson: Mr. Ron Wheeler

Secretary Treasurer: Ms. Patricia Lebrun

The nominating committee has contacted all of the candidates and they are each willing to serve in this capacity for another year.

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**Recommended Action:**

*Informational.*

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**Election of Officers—Chairperson Casey Peterson**

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South Dakota Science and Technology Authority  
Election Procedures Policy  
Adopted 6/24/08

The Board of Directors shall follow the following procedure for the nomination and election of officers.

- A. The nomination and election process shall be held in open session.
- B. At the last meeting of the Board before the Annual Meeting, the Chairperson shall appoint a Nominating Committee.
- C. The following procedure shall be utilized at the Annual Meeting:
  - 1. The Chairperson shall call for the report of the Nominating Committee.
  - 2. After the Nominating Committee reports, the Chairperson shall ask if any Board member intends to make additional nominations.
  - 3. If no Board member indicates the intention to make additional nominations, the Chairperson shall call for a motion to elect the slate recommended by the Nominating Committee.
  - 4. If any Board member indicates the intention to make an additional nomination for any office, the slate recommended by the Nominating Committee shall be deemed rejected and the following procedure shall be utilized:
    - a. The Chairperson shall call for oral nominations for the office of Chairperson. Once it appears that all nominations have been made, a motion that nominations cease would be in order. This motion may be made with or without a call for such motion by the Chairperson.
    - b. If there is only one nominee, a motion that all nominations cease and that the nominee be elected Chairperson would be in order. This motion may be made with or without a call for such motion by the Chairperson.
    - c. If there is more than one nominee, nominations shall continue until there is a successful motion that nominations cease.
    - d. Upon passage of a motion that nominations cease, the Chairperson shall call for a vote. Each Board member shall announce his or her vote out loud. Counsel for the Authority shall tabulate the vote and announce the results.
    - e. The successful candidate shall immediately take office as Chairperson and conduct the remainder of the election and the meeting.
    - f. The Chairperson shall follow the procedure set forth above for each of the remaining offices.
- D. Pursuant to SDCL 1-16H-11, the affirmative vote of no less than four Board members is necessary to elect any officer. If no candidate receives four votes, the Board will vote twice more. If no candidate receives four votes after three attempts, the election for that office will be deemed adjourned until the next meeting of the Board. At the next meeting, the Board shall commence the election procedure set forth above in Section C.4, but only as to any office not filled at the prior meeting. This procedure shall continue from meeting-to-meeting until a candidate receives at least four votes. Pursuant to Article III, Section 1 of the Bylaws, the officers in office as of the commencement of the Annual Meeting shall remain in office until their successors are duly elected.

This policy shall remain in effect until specifically rescinded or modified.

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**Recommended Action:**

*Motion to accept the report from the nominating committee and to elect the slate of officers as discussed.*

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

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The next board meeting will be held on Thursday, September 21, beginning at 8:00 AM (Mountain Time).

<b>2017 Regular Board Schedule</b>	
March 16, 2017	08:00 am (MT)
June 22, 2017	08:00 am (MT)
<b>September 21, 2017</b>	<b>08:00 am (MT)</b>
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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**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. Dr. Jan Puszynski, Ex-officio member
7. Mr. Ron Wheeler, Vice-Chairperson
8. Dr. Robert Wilson

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**Recommended Action:**

*None.*

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