



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

221 MALL DRIVE, SUITE #201
RAPID CITY SD 57701
605-394-2229
danr.sd.gov

December 1, 2025

Brenda Binegar
Dept. of Agriculture & Nat. Resources
523 E. Capitol Ave.
Pierre, SD 57501

Re: In re Matter of Clean Nuclear Energy Corp. Uranium Exploration Permit
Application

Dear Ms. Binegar:

Enclosed please find the Department's Witness & Exhibit Lists to be filed in the above referenced matter. Also enclosed is a USB memory drive containing the Department's intended exhibits. A copy of these documents, and a USB memory drive containing the disclosed exhibits, will be served upon the parties and Hearing Chair Morris as indicated in the attached Certificate of Service.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Steven R. Blair
General Counsel – Dept. of Agriculture & Natural Resources

Enclosures

Cc/encl: Roberta Hudson – DANR Minerals, Mining, & Superfund Program (via email only)
David McVey – Counsel, Brd. Of Minerals & Environment (via email only)

STATE OF SOUTH DAKOTA
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BOARD OF MINERALS & ENVIRONMENT

IN THE MATTER OF CLEAN)	DANR
NUCLEAR ENERGY CORP.)	WITNESS
URANIUM EXPLORATION PERMIT)	& EXHIBIT LISTS
APPLICATION)	
)	
EXNI 453)	

The Minerals, Mining, and Superfund Program of the Department of Agriculture and Natural Resources (Department), through the undersigned counsel of record, hereby submits the following Witness and Exhibit Lists in the above captioned matter.

WITNESSES

The Department has previously disclosed that it intends to call the following witnesses in its case in chief:

Roberta Hudson

Eric Holm

DANR – Minerals, Mining, Superfund Program
Foss Building
523 E. Capitol Avenue
Pierre, SD 57501

Mandy Pearson

S.D. Game, Fish, & Parks
4130 Adventure Trail
Rapid City, SD 57702

Jozef Lamfers

S.D. State Historical Preservation Office
900 Governors Drive
Pierre, SD 57501

Dustin Lloyd
S.D. Archaeological Research Center
937 E. North Street, #201
Rapid City, SD 57701

These witnesses were previously disclosed as hybrid witnesses expected to testify primarily as fact witnesses while recognizing that some inherent opinion testimony will be elicited. Copies of the witnesses' declarations and curricula vitae are attached. As previously asserted, by operation of SDCL § 1-20-21.2, Mr. Lloyd's report is confidential and will not be released without a protective order issued by the Hearing Chair.

The Department reserves the right to designate further witnesses should the need arise. The Department also reserves the right to call any rebuttal witnesses, expert or otherwise, as may be necessitated by the testimony and evidence presented during the hearing of this matter.

EXHIBITS

The Department provides the following list of exhibits that it may seek to introduce into evidence in its case in chief in the above captioned matter.

- 1: Clean Nuclear Energy Corp. Application File as publicly available at <https://danr.sd.gov/public/ccdocs.aspx?CCID=CCID123>.
- 2: Presentation of Roberta Hudson
- 3: Curriculum Vitae of Roberta Hudson
- 4: Presentation of Eric Holm
- 5: Reclamation Bond Calculations and Assumptions – 48 Holes
- 6: Reclamation Bond Calculations and Assumptions – 38 Holes
- 7: Curriculum Vitae of Eric Holm
- 8: February 21, 2025, Letter from State Historic Preservation Office
- 9: Curriculum Vitae of Jozef Lamfers
- 10: June 6, 2025, Letter from State Archeological Research Center
- 11: Curriculum Vitae of Dustin Lloyd
- 12: S.D. Game, Fish, & Parks Permit Restrictions

13: Curriculum Vitae of Mandy Pearson

Copies of the disclosed exhibits are being provided to the parties electronically.

The Department reserves the right to amend any disclosed exhibit as it further develops its case in chief. The Department also reserves the right to designate further exhibits should the need arise. The Department further reserves the right to introduce any exhibit in rebuttal that may be necessitated by the testimony and evidence presented during the hearing of this matter.

Dated this 1st day of December, 2025.



Steven R. Blair
Dept. of Agriculture & Natural Resources
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Rapid City, SD 57709
605-394-2229
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*Counsel for Department of Agriculture
and Natural Resources – Minerals, Mining,
& Superfund Program*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the original of the Department of Agriculture & Natural Resources' WITNESS AND EXHIBIT LISTS was submitted electronically, and via United States Mail, First Class, Postage Prepaid upon the following to be filed in the above captioned matter:

Brenda Binegar
Dept. of Agr. & Nat. Resources
523 E. Capitol Ave.
Pierre, SD 57501
brenda.binegar@state.sd.us
Secretary, Board of Minerals & Environment

Further, a true and correct copy of the above referenced document(s) was served by United States Mail, First Class, Postage Prepaid, upon:

Matt Naasz
Gunderson, Palmer, Nelson, &
Ashemore, LLP
506 6th Street
Rapid City, SD 57701
*Counsel for Applicant – Clean
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Bob Morris
704 7th Avenue, Suite 2
P.O. Box 370
Belle Fourche, SD 57717
*Hearing Chair – Brd. of Min.
& Env.*

Kimberly Craven
Attorney General – Cheyenne
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Hot Springs, SD 57747
Intervenor

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Intervenor

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Smithwick, SD 57782
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Tonya Stands
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*Counsel for Intervenor – Oglala
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Intervenor

Brenda Gamache
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Intervenor

Ben R Sharp
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Hot Springs, SD 57747
Intervenor

Jeremiah Davis
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Rapid City, SD 57701
Intervenor

Gena Parkhurst
514 Americas Way, #20805
Box Elder, SD 57719
Intervenor

George J. Nelson
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Rapid City, SD 57702
*Counsel for Intervenor Black
Hills Group – Sierra Club*

Peter Capossela
P.O. Box 10643
Eugene, OR 97440
*Counsel for Intervenor – Great
Plains Tribal Water Alliance*

Dated this 1st day of December, 2025.



Steven R. Blair – DANR

DANR EXHIBIT 1

CLEAN NUCLEAR ENERGY CORP. APPLICATION FILE

publicly available at:

[https://danr.sd.gov/public/ccdocs.aspx?CCID=CCID123.](https://danr.sd.gov/public/ccdocs.aspx?CCID=CCID123)

DANR EXHIBIT 2

**PRESENTATION
OF ROBERTA HUDSON**

CLEAN NUCLEAR ENERGY CORP. URANIUM EXPLORATION PERMIT HEARING



Board of Minerals and Environment



URANIUM EXPLORATION PERMIT APPLICATION

SDCL 45-6D-6. Application for permit for exploration operations –

- Requirements for complete application:

- 1) An application form pursuant to SDCL 45-6D-7
- 2) A plan of reclamation pursuant to SDCL 45-6D-9
- 3) A map pursuant to SDCL 45-6D-10
- 4) A fee pursuant to SDCL 45-6D-18

URANIUM EXPLORATION PERMIT APPLICATION

SDCL 45-6D-7. Application form

- Form developed by state to include all information required under SDCL 45-6D-7
- Clean Nuclear submitted the application on March 15, 2024
 - Original form was missing the zip code portion of the address – zip code provided in April 26, 2024, response
- SDCL 1-41-20 – Certification of Applicant form was received March 15, 2024
- Upon receipt of the supplemental information on April 26, 2024, the requirements outlined in SDCL 45-6D-7 were met

URANIUM EXPLORATION PERMIT APPLICATION

SDCL 45-6D-9. Reclamation plan

- Form developed by state to have all information required under SDCL 45-6D-9
- Clean Nuclear submitted reclamation plan as part of application on March 15, 2024
- Also included separate consultation on a seed mix with the District Conservationist at Natural Resources Conservation Service (NRCS) as required by SDCL 45-6D-9(2)
- Review of the reclamation plan showed it to have met the requirements outlined in SDCL 45-6D-9
- Application was filed with the Register of Deeds in Fall River County on March 15, 2024

ADDITIONAL REQUIREMENTS FOR RECLAMATION PLAN

- 45-6D-16 Consultation with the surface owner
 - During the development of the reclamation plan, Clean Nuclear was required to consult with the landowner and lessee as per this statute
 - Original consultation (conducted March 5, 2024) was submitted with application on March 14, 2024
 - DANR response on March 17, 2024, pointed out there was no response from the lessee and comments from Office of School and Public Lands had not been addressed
 - On April 26, 2024, Clean Nuclear provided a response indicating the opportunity had been provided to the landowner and surface lessee to provide comments and no comments had been provided
 - Response included affidavit from Clean Nuclear showing they had consulted with landowner
 - On May 3, 2024, DANR provided a response letter clarifying Clean Nuclear needed to address concerns of the landowner and provide adequate time for response and that this had not been done during the initial consultation

ADDITIONAL REQUIREMENTS FOR RECLAMATION PLAN (CONT'D)

- SDCL 45-6D-16. Consultation with landowner
 - On February 26, 2025, I sent an email to Crystal Hocking explaining the only remaining completeness issue remaining for the proposed uranium exploration project
 - Response was provided in accordance with another issue which will be addressed shortly
 - Ms. Hocking began the landowner consultation process again
 - Received responses from both landowner and lessee
 - Request to include buffalograss as part of seed mix
 - DANR requested the seed mix be modified with NRCS to include buffalograss
 - New seed mix with buffalograss was approved by NRCS on April 4, 2025

URANIUM EXPLORATION PERMIT APPLICATION

- SDCL 45-6D-10. Map of permit area
 - Clean Nuclear submitted several maps on March 15, 2024, as part of application
 - Maps showing proposed drill hole locations are considered confidential under SDCL 45-6D-15
- Maps were determined to fulfill the requirements outlined in SDCL 45-6D-10

URANIUM EXPLORATION PERMIT APPLICATION

- SDCL 45-6D-18. Fee for application
 - Clean Nuclear submitted the required application fee of \$500 with the application on March 15, 2024

URANIUM EXPLORATION PERMIT APPLICATION AGENCY CONSULTATION

- SDCL 45-6D-13. Department of Game, Fish, and Parks
 - The application was originally supplied to Stan Michals on March 20, 2024
 - Mr. Michals retired in January 2025
 - The application was supplied to Mandy Pearson on May 13, 2025
 - On May 14, 2025, Ms. Pearson attended the pre-inspection of the proposed exploration area as well as Jessica Speiser (GFP)
 - Ms. Pearson provided restrictions on the application on July 14, 2025
 - Ground-nesting Bird Survey
 - Raptor Nest Survey
 - Bat Roost Survey

URANIUM EXPLORATION PERMIT APPLICATION AGENCY CONSULTATION

- SDCL 45-6D-14. State Archaeologist
 - Prior to receipt of the application DANR was made aware it would be submitted by Clean Nuclear
 - DANR consulted with both ARC and SHPO upon learning the application would be submitted. This was prompted by the proximity of the proposed exploration operation to Craven Canyon, which we know to be on the National Register of Historic Places
 - Application was submitted to both Jenna Carlson Dietmeier (SHPO) and Dustin Lloyd on March 12, 2024
 - Jozef Lamfers (SHPO) later took over review from Jenna Carlson Dietmeier

STATE HISTORIC PRESERVATION OFFICE CONSULTATION

- SDCL 1-19A-11.1 – Requires that the State Historical Society be given notice and an opportunity to investigate and comment on any project which may possibly have an impact on historic property listed on either the national register of historic places or the state register of historic place or the environs of such property. This statute is applicable to any determination made by the state, or any political subdivision of the state, or any instrumentality thereof.

STATE HISTORIC PRESERVATION OFFICE CONSULTATION

- Due to the restrictions of SDCL 1-19A-11.1, DANR determined it was necessary to have Clean Nuclear consult with and supply the State Historic Preservation Office with the information necessary to conduct the required investigation prior to requesting a board hearing on the application
- SHPO conducted their investigation and provided a SDCL 1-19A-11.1 Consultation letter, submitted to the applicant and the department on February 21, 2025
- SHPO determined the proposed project would not encroach upon, damage, or destroy a historic property which is included on the National and State Registers of Historic Places

STATE HISTORIC PRESERVATION OFFICE CONSULTATION

- In addition to determining there would be no impacts to historic property, SHPO provided a set of conditions on the proposed operation
 - 12 rock art sites are inspection both pre- and post- construction by qualified personnel
 - Report documenting condition of the sites within 45 days after drilling has concluded
 - Included documentation requirements for the sites for both the pre- and post- inspections including pictures and sketches documenting conditions for the sites and documenting any changes to the integrity of each site
 - Reasonable and good-faith accommodations made to allow any tribes with an interest wishing to participate in the inspections

URANIUM EXPLORATION PERMIT AGENCY CONSULTATION

- Archaeological Research Center – State Archaeologist
 - Cassie Vogt – State Archaeologist
 - Dustin Lloyd – Senior Archaeologist – Primary review
 - Response provided through email by Cassie Vogt on behalf of Dustin Lloyd
 - Restrictions provided to mirror SHPO restrictions though did note 14 rock art sites rather than the 12 noted in Mr. Lamfers letter
 - Additional restrictions
 - Weekly inspections – offered to be conducted by ARC
 - No work to be conducted within an outlined area which includes two of the proposed drilling locations
 - Work with THPOs and other tribal representatives to develop a comprehensive and collaborative plan for notification of discovery of ancestral human remains

DOMESTIC WATER WELLS

- SDCL 45-6D-17. Domestic Water Wells – Board may require, prior to commencement of a uranium exploration operation, water quality information concerning designated domestic water wells within the proposed permit area or within one-half mile of proposed permit area
 - Review of Water Rights well database showed only two wells within the designated vicinity of the operation area
 - One well to the north was marked as abandoned in 1984, and one well to south belongs to private residence
 - No sampling was requested by the department
 - During pre-inspection of site, neighboring landowner indicated there were ~ 10 wells on adjacent USFS and private lands that are primarily utilized for stock watering purposes that are not identified in the DNR well database

SITE PRE-INSPECTION

- SDCL 45-6D-19 – Required to conduct an inspection prior to issuance of a uranium exploration permit
 - Inspection of site conducted on May 14, 2025
 - Attendees:
 - SHPO – Jozef Lamfers
 - ARC – Dustin Lloyd
 - GFP – Mandy Pearson
 - DANR – Roberta Hudson, Eric Holm, and Phil Nesbitt
 - Clean Nuclear – Mike Blady
 - ReSpec – John “Butch” Knight and Ben Auschon
 - Cowboy Exploration – John Glasscock
- Russel Zephier Jr., Archaeological/Environmental Technician from Environmental Compliance Department of the Oglala Lakota Housing Authority did request to attend on April 4, 2025
 - Information on location and time of inspection was provided to him on April 15, 2025; however, there were no additional communications from Mr. Zephier regarding the inspection

SITE PRE-INSPECTION

- Evaluate site to criteria established under SDCL 45-6D-20.
 - 1) Potential damage to unique and natural historical sites, springs, natural or man made water storage and transport facilities, domestic and public water wells and water supply, waste water transport, storage and treatment facilities or crops
 - ARC and SHPO representatives provided an analysis of potential impacts to historic sites
 - No springs were noted in the area
 - One domestic well was marked in the area. Could not confirm landowner claim of additional wells in area
 - No waste water facilities noted in area
 - Area primarily is used for livestock grazing























NOTICE OF FILING

- Applicant is required to publish a Notice of Filing in a newspaper of general circulation, once a week for two consecutive weeks
- DANR developed the Notice for publication and provided it to Clean Nuclear
- Clean Nuclear provided the affidavit of publication on April 29, 2025
- DANR also published the same notice in both the Rapid City Journal and Argus Leader, receiving the affidavit of publication for these newspapers on April 24 and May 6, 2025, respectively

PUBLIC COMMENT PERIOD

- SDCL 45-6D-26 – “Any person may file written objections or statements in support of an application for uranium exploration permit with the Board of Minerals and Environment. The material for intervention shall be filed with the board not more than twenty days after the date of last publication of notice.”
- The last date of publication for the Notice of Filing was on April 24, 2025
- Comments and intervention were to be received by May 14, 2025
- Received 319 comments by the end of day on May 14, 2025
- Most comments were in objection to the proposed project

RECOMMENDED PERMIT CONDITIONS
(IF PERMIT IS APPROVED)

Section 1.0 Standard Conditions

1.1 General

1.1.1 The conditional approval of this uranium exploration permit application hereby incorporates by reference those representations made by Clean Nuclear Energy Corp (Clean Nuclear) as to plans specifications, operations, environmental impacts, and reclamation as contained in the original uranium exploration permit application submitted March 15, 2024, and submittal of additional materials on April 26, 2024, February 26 and April 4, 2025. The representations contained in these documents are general conditions of the uranium exploration permit unless modified by the following conditions, or by other conditions as may be imposed by the Board of Minerals and Environment (board).

1.1.2 This permit and all rights under it are expressly conditioned on the truth of representations made by Clean Nuclear, its officers, employees, and contractors in the application, supporting documentation related to the application, and evidence presented to the board. If any material representation proves to be false, this permit and all rights under it may be canceled upon findings by the board.

1.1.3 This permit is conditioned upon compliance with all applicable laws and regulations.

1.1.4 Clean Nuclear shall follow the recommendations of the South Dakota Game, Fish, and Parks, State Archaeologist, State Historic Preservation Office, and the Natural Resources Conservation Service (NRCS) except as modified or restated in these conditions. The NRCS shall be consulted for technical assistance and seeding scheduled in reclaiming the land surface.

1.2 Other Permits

1.2.1 Clean Nuclear is required to maintain coverage under the South Dakota general permit for storm water associated with industrial activities.

1.2.2 Clean Nuclear may only use water from a source that has an industrial water right permit for drilling activities. Should Clean Nuclear look to obtain or utilize water from any other source, Clean Nuclear shall work with the department's Office of Water to obtain any permits required prior to utilizing water source.

1.2.3 These conditions do not change the requirements of other existing and future permits for the project.

1.3 Drilling and Abandonment of Wells and Uncased Exploration Holes

1.3.1 When drilling fluids are used and/or when ground water is encountered during drilling, the fluids shall be sufficiently contained to prevent overland flow or discharge to any waters of the state. If water tanks are used in lieu of mud pits, they shall also be sufficiently contained.

1.3.2 The surface formation in the proposed exploration area consists of sandstone. As a result, to conserve water and minimize leakage from the mud pit into the underlying formation, Clean Nuclear shall line all mud pits with an impermeable liner. Upon completion of drilling, lined mud pits should be allowed to dry. The bottom of the liner shall be punctured and then all liner and remaining materials shall be buried during reclamation of the mud pit.

1.3.3 In instances where it is determined surface casing must be utilized on the exploration hole to promote stability during drilling, the following requirements must be met:

- a) Prior to removal of surface casing, the hole shall be plugged in accordance with ARSD 74:11:08 to a level just below the bottom of the surface casing.
- b) Following step a), the casing shall be removed (when possible) or cut off at least one foot below the ground surface.
- c) The remainder of the hole will be plugged in accordance with ARSD 74:11:08.

1.3.4 Upon completion of logging test hole, Clean Nuclear shall plug the hole in accordance with SDCL 45-6D-33 and ARSD Chapter 74:11:08.

1.3.5 Topsoil overlying mud pit locations shall be removed and stockpiled separately from the rest of the pit material. Upon plugging of the hole, the pit shall be filled and the dirt mounded to allow for subsidence. The pit shall then be leveled, topsoil replaced, and the entire site reseeded with the approved seed mixture set forth in Condition 1.7.4. The NRCS shall be consulted for seeding schedules in reclaiming the land surface in their respective counties.

1.3.6 A hole abandonment report shall be made available to the department upon request.

1.3.7 During operations, Clean Nuclear shall provide weekly updates to the department by email outlining, expected drilling activities for the coming week and holes to be plugged. In addition, Clean Nuclear shall provide additional updates within 24 hours prior to any plugging activities by phone call.

1.3.8 Clean Nuclear shall not drill any wells without proper consultation with the department's Water Rights Program.

1.4 Water Management

1.4.1 The uranium exploration operation shall be conducted and reclaimed in a manner to prevent any violation of the beneficial uses of specified water quality criteria of any water resources in the area.

1.4.2 Discharge of water into surface waters of the state is not allowed without a South Dakota Water Discharge Permit.

1.5 Erosion and Sediment Control

1.5.1 Erosion and sediment control structures shall be in place where necessary and functional during all operations and reclamation phases. Periodic maintenance shall be performed on all erosion and sediment control structures to ensure control effectiveness.

1.6 Duty to Mitigate

1.6.1 Clean Nuclear shall take all reasonable steps to minimize or correct any adverse impacts to the environment resulting from spills or noncompliance with this permit. All petroleum products used in exploration operations shall be appropriately contained to prevent overland flow to any waters of the state. Any mechanized drilling equipment using oils and fuels will be operated and maintained to prevent degradation of state resources. Spills shall be reported to the department in accordance with SDCL 34A-12-9 and ARSD Chapter 74:34:01.

1.7 Reclamation

1.7.1 Clean Nuclear shall reclaim all affected land surfaces to conserve the soil and water resources in the affected areas in accordance with SDCL 45-6D-37 and 38. Reclamation shall be completed within 12 months following completion of exploration activities.

1.7.2 All topsoil shall be salvaged and stockpiled whenever possible for use in reclamation. The topsoil shall be reapplied as soon as practicable after exploration activity is complete.

1.7.3 Clean Nuclear shall spray weeds up to 50 feet from all disturbed and surrounding areas, including along access roads within the exploration permit boundary. Weed control on all disturbed or reclaimed areas is required until the permit is released of reclamation liability by the board.

1.7.4 The following seed mix shall be used for the affected area, as agreed upon by the department, NRCS, surface owner, and lessee:

Sideoats grama	0.79 (PLS) lbs/ac
Western wheatgrass	8.78 (PLS) lbs/ac
Blue grama	0.13 (PLS) lbs/ac
Green needlegrass	1.36 (PLS) lbs/ac
Slender wheatgrass	0.23 (PLS) lbs/ac
Purple prairie clover	0.11 (PLS) lbs/ac
Little bluestem	0.46 (PLS) lbs/ac
Buffalograss	3.27 (PLS) lbs/ac

1.8 Property Rights

1.8.1 The issuance of this permit does not convey any property right of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of a person's rights, nor any infringement of federal, state or local laws, or regulations.

1.9 Wildlife

1.9.1 If exploration is scheduled during the nesting season (April-July), conduct surveys immediately prior to ground disturbance to avoid impacting active nests. Early surveys may not accurately reflect current nest activity. Submit nest locations and species observed to SDGFP to determine appropriate buffer distances.

1.9.2 Clean Nuclear shall survey the project area and surrounding vicinity for active and inactive raptor nests. Document species, nest status, and distance to proposed mining operations. Submit active nest data to SDGFP to determine appropriate buffer distances.

1.9.3 Clean Nuclear shall survey all live/dead trees and geological structures within the project area, especially within 300 feet of drill pads or disturbance zones. Potential roosts must not be removed during the active bat season (May-September). Emergence surveys may be needed to confirm use. If bats or active bat roosts are found, maintain a 300-foot buffer. Submit potential/confirmed roost locations, observations, and survey results to SDGFP.

1.10 Cultural Resources

1.10.1 Clean Nuclear shall abide by all restrictions and recommendations outlined in the letter dated February 21, 2025, by Jozef Lamfers of the State Historic Preservation Office.

1.10.2 Clean Nuclear shall abide by all restrictions and recommendations outlined in the letter dated June 6, 2025, by Dustin Lloyd of the Archaeological Research Center.

1.10.3 If any artifacts or other archaeological or cultural resources are discovered during exploration activities, the activities shall be halted, and the State Archaeologist notified at once.

2.0 Reclamation Surety

2.1 Reclamation Surety

2.1.1 Clean Nuclear shall submit a \$_____ reclamation surety to the department prior to the issuance of the permit by the board. The department reserves the right to adjust the reclamation surety amount for inflation, or unanticipated conditions encountered during the exploration operation.

3.0 Permit Renewal Requirements

3.1 Permit Effective

3.1.1 In accordance with SDCL 45-6D-30, this permit shall expire three years from the date of issuance unless reopened or terminated for cause.

3.2 Permit Renewal

3.2.1 In accordance with SDCL 45-6D-43, Clean Nuclear shall submit an application for permit renewal at least 30 days before the date of permit expiration if Clean Nuclear wishes to continue an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Board takes final action on the timely permit renewal application.

3.2.2 Thirty days prior to the renewal date of the uranium exploration operation permit, Clean Nuclear shall submit the aquifer penetration report in accordance with SDCL 45-6D-40.

3.3 Permit Expiration

3.3.1 In accordance with SDCL 45-6D-50, permit expiration terminates Clean Nuclear's right to continue uranium exploration activities by this permit.

4.0 Record Keeping and Reporting Requirements

All reports required by this uranium exploration permit shall be submitted to the following address:

Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program
523 E Capitol Avenue
Pierre, SD 57501-3182

4.1 Penetration of Aquifer

4.1.1 In accordance with SDCL 45-6D-39, Clean Nuclear shall notify, in writing, the board of the penetration of an aquifer and the location of the test hole penetrating such aquifer as soon as practically possible, but not more than ninety days after penetration.

4.2 Geologic Conditions

4.2.1 In accordance with SDCL 45-6D-41, within six months after the expiration of the permit, Clean Nuclear shall submit a clear and complete report concerning the geologic conditions in the permit area.

4.3 Permit Violations

4.3.1 Clean Nuclear shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation must be reported by telephone to the department at (605) 773-4201.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the department, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

- a. Description of the permit violation and its cause(s);
- b. Duration of the permit violation, including exact dates and times; and
- c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

Curriculum Vitae

**Roberta Hudson, PE
Engineering Manager I
South Dakota Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program
Pierre, South Dakota**

Roberta Hudson is an Engineering Manager I with the South Dakota Department of Agriculture and Natural Resources, Minerals, Mining, and Superfund Program. She is a licensed Professional Engineer in the State of South Dakota. Ms. Hudson has a B.S. degree in Geology and a M.S. degree in Geology and Geological Engineering from South Dakota School of Mines and Technology in Rapid City, SD.

Ms. Hudson has been employed with the South Dakota Department of Agriculture and Natural Resources since May 2004. From May 2004 through May 2006, Ms. Hudson worked as a Natural Resources Project Engineer for the Waste Management Program of the DANR where she performed inspections of reclaimed waste facilities, assisted with review of ground water reports from regional landfills in the state, and worked as the state recycling coordinator. In June 2006, Ms. Hudson began working for the Minerals and Mining Program. Ms. Hudson has been an Engineering Manager I for the program since 2019. Her primary responsibilities are mine permit team leadership, reviewing mine permit, uranium exploration permit, and exploration notice of intent applications, reviewing plans and specifications for various mine facilities, reviewing technical revisions and permit amendments, inspecting various mining operations, and reviewing water quality at the mine.

Ms. Hudson acted as lead reviewer for the Clean Nuclear Energy Corp's Uranium Exploration Permit Application.

DANR EXHIBIT 4

PRESENTATION OF ERIC HOLM

South Dakota Department of Agriculture and Natural Resources

Clean Nuclear Energy Corp. Uranium Exploration Reclamation Surety Calculation

2026

Criteria for Determining Amount of Reclamation Surety

- SDCL 45-6D-20
- Cost per test hole site to reclaim disturbed surface areas
- Cost to plug each test hole
- Potential damages to unique and natural historical sites

Other Reclamation Surety Criteria

- SDCL 45-6D-19 and 45-6D-25
- Requires reclamation surety to cover plugging of all proposed exploration holes

Reclamation Surety – Assumptions

- Total of 48 drill holes
- 60 foot x 60 foot drill pads
- 3.97 acres total disturbance
- Hole length 700 feet
- 10 holes plugged with cement grout
- 38 holes plugged with bentonite grout

Costs for Reclaiming Surface Disturbance

“Traditional” Reclamation of Drill Pads

- Backfilling sumps and grading
- Topsoil replacement
- Revegetation
 - Includes addition of buffalograss
- Mulching and fertilizing
- Erosion control
- Noxious weed spraying

Surface Disturbance Reclamation Costs

Drill Pads & Sumps	\$ 16,915
Topsoil Placement	\$ 4,398
Noxious Weed Control	<u>\$ 5,000</u>
Total	\$ 26,313

Costs for Plugging Exploration Holes

- Bentonite and cement
- Plugging rig and water truck, including fuel
- Labor
- Plugging supervisor

Exploration Hole Plugging Costs

Costs

Cement Grout Plugging	\$ 55,772
Bentonite Grout Plugging	\$ 203,694
Plugging Supervisor	<u>\$ 10,400</u>
Total	\$ 269,866

Reclamation Surety Direct Costs

Surface Disturbance Reclamation	\$	26,313
Plug 48 Drill Holes	\$	<u>269,866</u>
Total	\$	296,179

Reclamation Surety Indirect Costs

Direct Reclamation Cost	<u>\$ 296,179</u>
25% Mobilization	\$ 74,045
8% Contractor Overhead	\$ 23,694
2% State Excise Tax	\$ 5,924
10% Contractor Profit	\$ 29,618
5% Contingency	\$ 14,809
5% Administration	\$ 14,809
5% Scope and Bid	<u>\$ 14,809</u>
Total	\$ 473,887

Craven Canyon Rock Art Contingency

- SDCL 45-6B-20: Potential damages to unique and natural historical sites
- Archaeological Research Center identified 14 rock art features that could be impacted by the exploration operation
- Developed repair costs based on past US Forest Service repair costs for rock art in the canyon

Rock Art Repair Contingency Costs

Repair Cost for Each Rock Art Feature	\$ 11,000
Number of Rock Art Features	14

Total Repair Cost	\$ 154,000
Assessment Cost	<u>\$ 6,500</u>
Total	\$ 160,500
25% Contingency	\$ 40,125
5% Administration	<u>\$ 8,025</u>
Total Repair Contingency Cost	\$ 208,650

Total Reclamation Surety

Surface Disturbance/Plugging	\$	473,887
Rock Art Contingency	\$	<u>208,650</u>
Total	\$	682,537
Inflation (3% for 3 years)	\$	745,826
Round To	\$	745,800

Alternative Drilling Plan

- On May 27, 2025, Clean Nuclear Energy submitted information reducing the number of holes drilled from 48 to 38

Reclamation Surety Direct Costs for Reduced Drilling Plan

Surface Disturbance Reclamation	\$	22,292
Plug 38 Drill Holes	\$	<u>215,829</u>
Total	\$	238,121

Reclamation Surety Indirect Costs

Direct Reclamation Cost	<u>\$ 238,121</u>
25% Mobilization	\$ 59,530
8% Contractor Overhead	\$ 19,050
2% State Excise Tax	\$ 4,762
10% Contractor Profit	\$ 23,812
5% Contingency	\$ 11,906
5% Administration	\$ 11,906
5% Scope and Bid	<u>\$ 11,906</u>
Total	\$ 380,993

Total Reclamation Surety

Surface Disturbance/Plugging	\$	380,903
Rock Art Contingency	\$	<u>208,650</u>
Total	\$	589,643
Inflation (3% for 3 years)	\$	644,319
Round To	\$	644,300

CLEAN NUCLEAR ENERGY
EXNI-453
2025 BOND CALCULATION

Plug 48 Drill Holes	\$259,466
Drill Pads & Mud Pits	\$16,915
Spread Topsoil with Dozer	\$4,398
Drill Hole Plugging Supervisor	\$10,400
Noxious Weed Spraying	\$5,000
<hr/>	
Subtotal	\$296,179
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Mobilization (25%)	\$74,045
Contractor Overhead (8%)	\$23,694
State Excise Tax (2%)	\$5,924
Contractor Profit (10%)	\$29,618
Contingency (5 %)	\$14,809
Insp., Adm., & Maint. (5%)	\$14,809
Scope and Bid Contingency (5%)	\$14,809
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Total	\$473,887
Contingency for Damage to Craven Canyon Rock Art	\$208,650
Total	\$682,537
Total with Inflation Cost Adjustment @ 3% for 3 Years	\$745,826
ROUND TO	\$745,800

CLEAN NUCLEAR ENERGY CORP
URANIUM EXPLORATION PERMIT 453 BOND CALCULATION
GENERAL INFORMATION & ASSUMPTIONS

1. The bond calculation covers the entire affected area. A total of 3.97 acres was used in the calculation to covers the costs of reclaiming all 48 drill holes, along with the mud pits and drill pads for each hole and associated disturbance.
2. The calculations are based on the actual cost that would accrue to the state if it had to hire a third-party contractor to conduct reclamation at the site.
3. In a worst-case scenario, ten exploration holes will need to be plugged with cement grout to account for various geologic and hydrologic conditions. The remaining 38 exploration holes will be plugged with high quality bentonite grout.
4. The length of each hole that will be plugged with cement grout is 697 feet, with the upper three feet filled with drill cuttings for a total hole depth of 700 feet. The length of each hole that will be plugged with bentonite grout is 692 feet, with a five foot cement plug placed over the bentonite grout flowed by three feet of drill cuttings for a total hole depth of 700 feet. The diameter of each exploration hole is 6.5 inches. It will take a drill rig and crew two hours to trip in and out and plug each hole with cement or bentonite grout.
5. The Earthmoving Summary contains information on volumes of material to be moved and graded, available topsoil volumes and application, and revegetation acreage. The following assumption was used in the summary:
 - a. A Cat D6 dozer will move 5,077 LCY of material to backfill the mud pits and regrade and apply topsoil to the disturbed areas.
6. The Equipment and Fuel Cost Summary contains information on equipment and fuel costs used in the calculation. The equipment costs are based on average rates obtained from two Caterpillar dealers and do not include fuel. A delivered fuel cost of \$3.56/gallon was used in the calculation.
7. The Labor Cost Summary contains information on equipment operator and site support staff wages. South Dakota Davis Bacon wage rates were used to determine equipment operator and other wages.
8. All equipment will run at 80 percent efficiency. This is obtained from the Cat Handbook and other bond calculation references.
9. The Seed and Fertilizer Cost Summary contains information on seed, hydroseeding, hydromulching, and fertilizer application rates and costs. It is assumed that 50 percent of the area will need to be reseeded after the initial seeding attempt. Seed costs are based on average rates from three seed companies. Hydroseeding, hydromulching, and fertilizer costs are based on a quotes from an area seeding company. Sales tax has been applied to

these costs.

10. A cost of \$5,000 was assumed to control noxious weeds at the mine site.
11. A cost of \$2,000 was assumed for erosion control.
12. A cost of \$10,400 was calculated to cover the costs for a hole plugging supervisor.
13. The following indirect costs were added to the direct cost:

Mobilization/Demobilization	25%
Contractor Overhead	8%
State Excise Tax	2%
Contractor Profit	10%
Contingency	5%
Administration	5%
Scope and Bid	5%
Total	60%

14. A contingency cost of \$208,650 was calculated to cover costs to repair damage to 14 rock art features in Craven Canyon. The costs are based on US Forest Service cost to repair vandalized rock art features in the canyon in 2008 and 2015 which have been updated for inflation. Indirect costs applied to the direct repair costs include 25 percent contingency and 5 percent DANR administration.

RIPPING FLAT AREAS

Dozer Type:	Cat D6T Dozer
Ripper Spacing (ft):	3
Avg. Speed (mph):	1
Avg. Pass (ft):	50
Man. Time (min):	0.25
Acreage (acres):	3.97
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Travel Distance =	57600 ft
Number of Passes =	1152 passes
Total Time @ 80% eff =	19.6 hrs
Cost =	\$2,876

MATERIAL MOVING WITH DOZER (Backfill Mud Pits)

Dozer Type:	Cat D6T Dozer
Blade Type:	Universal
Avg. Doze Dist. (ft.):	100
Vol. of Mat. (cy):	821 (estimation)
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Is mat. being moved to reduce slopes of heap, dump or other stockpile? Enter 1 if yes, 2 if no:	2
Production =	168 cy/hr
Total Time @ 80% Eff. =	6.1 hrs
Cost =	\$895

SEED COSTS

SEED TYPE

APPL.

RATE

COST

Western Wheatgrass

10.98 lbs/acre

\$10.38 /lb

Slender Wheatgrass

0.23 lbs/acre

\$7.54 /lb

Green Needlegrass

1.36 lbs/acre

\$6.57 /lb

Sideoats Grama

0.79 lbs/acre

\$31.77 /lb

Blue Grama

0.13 lbs/acre

\$27.78 /lb

Little Bluestem

0.46 lbs/acre

\$17.66 /lb

Purple Prairie Clover

0.11 lbs/acre

\$41.54 /lb

Buffalograss

3.27 lbs/acre

\$35.68 /lb

Acreage (acres):

3.97 acres

Cost =

\$1,122

SEEDING COSTS

Acreage (acres):	3.97
Cost (\$/acre):	\$852

Total Cost =	\$3,380
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HYDOMULCH (WOOD FIBER)

Acreage (acres):	3.97
Cost (\$/acres):	\$1,427

Total Cost =	\$5,661
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FERTILIZER

N Appl. Rate (lbs/acre):	27
P Appl. Rate (lbs/acre):	69
K Appl. Rate (lbs/acre):	0
N Cost (\$/lb):	\$1.44
P Cost (\$/lb):	\$0.48
K Cost (\$/lb):	\$0.43
Acreage (acres):	3.97

Total Cost =	\$285
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FUEL COSTS

Cost of fuel (\$/gal):

\$3.56 /gal

EQUIPMENT

HOURS

CONSUMP.

Cat D6T Dozer

25.7

7.6 gal/hr

Cat 637E Scraper

0.0

11.5 gal/hr

Cat 16M Grader

0.0

9.0 gal/hr

Cat 980 Loader

0.0

8.4 gal/hr

Cat 988H Loader

0.0

16 gal/hr

Cat 773 Truck

0.0

14.5 gal/hr

Cat 770 Truck

0.0

13.5 gal/hr

Total Cost =

\$695

MISC. COSTS

Erosion Control

\$2,000

TOTAL COST =

\$16,915

Topsoil Stockpile

MATERIAL MOVING WITH DOZER (Replace Topsoil)

Dozer Type:	Cat D6T Dozer
Blade Type:	Universal
Avg. Doze Dist. (ft.):	100
Vol. of Mat. (cy):	4,256 (estimation)
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Is mat. being moved to reduce slopes of heap, dump or other stockpile? Enter 1 if yes, 2 if no:	2
Production =	210 cy/hr
Total Time @ 80% Eff. =	25.3 hrs
Cost =	\$3,713

FUEL COSTS

Cost of fuel (\$/gal):		\$3.56 /gal	
EQUIPMENT	HOURS		CONSUMP.
Cat D6T Dozer		25.3	7.6 gal/hr
Cat 637E Scraper		0.0	11.5 gal/hr
Cat 16M Grader		0.0	9.0 gal/hr
Cat 980 Loader		0.0	8.4 gal/hr
Cat 988H Loader		0.0	16 gal/hr
Cat 773 Truck		0.0	14.5 gal/hr
Cat 770 Truck		0.0	13.5 gal/hr
Total Cost =		\$685	

MISC. COSTS

TOTAL COST = \$4,398

Clean Nuclear Energy EXNI-453
Plug Drill Holes with Bentonite Grout

$$Volume(ft^3) = D_1(in)^2 \cdot 0.005454 \cdot L(ft)$$

Drill Hole Diameter	6.5 inches
Drill Hole Volume	0.23 cf/ft
Drill Hole Volume	1.72 gallons/ft
Maximum Drill Hole Depth	700 ft

Bentonite Grout

Bentonite Grout Plugging Depth	692 ft
Volume of Bentonite Grout Required*	1,491 gallons
Bentonite Grout Yield	22.3 gallons per bag
Number of Bags of Bentonite Required	66.90 bags
Round To	67.00 bags
Cost per Bag of Bentonite	\$23.90 /bag
Total Bentonite Cost/Drill Hole	\$1,601
Grout Pumping Rate	17.95 gallons/min

*Accounts for 25% Loss to Formation

Place Cement Grout and Drill Cuttings or Bentonite Chips over Bentonite Grout

Cement Grout

Cement Grout Depth	5 ft
Volume of Cement Required	8.62 gallons
Cement Yield	8.82 gallons per bag
Number of Bags of Cement Required	1 bag
Cost per Bag of Portland Cement	\$15.75 /bag
Total Cement Cost/Drill Hole	\$15.75

Bentonite Chips

Bentonite Chips Depth	0 ft
Volume of Bentonite Chips Required	0.00 cf
Bentonite Chip Bulk Density	0.70 cf/bag
Feet Filled by One Bag	3.04
Bags Required	0.00 bags
Round to	0.00 bags
Cost per bag	\$10.54
Total Chipped Bentonite Cost	\$0

Water Required

Water Needed for Bentonite Grout	20 gallons per bag
Total Bentonite Grout Water Required	1,340 gallons
Water Needed for Cement	6 gallons per bag
Total Cement Water Required	6 gallons
Total Water Required/Drill Hole	1,346 gallons

Equipment

Plugging Drill Rig	\$370 /hr
2,000 Gallon Water Truck	<u>\$27</u> /hr
Total Equipment Cost	\$397

Fuel

Cost of fuel (\$/gal):	\$3.56 /gal	
EQUIPMENT	HOURS	CONSUMP.
Drill Rig	5.9	4.8 gal/hr
Water Truck	4.0	8.4 gal/hr
Total Cost =	\$220	

Labor

Hole Plugging Labor	\$200 /hr
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Other

Non Slip Drill Hole Plugs	\$8.61 /plug
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Hole Plugging Hours Per Hole

Set Up, Take Down, and Move to Next Hole	2 hours
Trip into Drill Hole	2 hours
Remove Casing	0 hours
Bentonite Grout Fill Time	1.38 hours
Cement Grout Fill Time	0.5 hours
Total Time per Drill Hole	5.88 hours

Total Plugging Cost/Drill Hole

Bentonite Cost	\$1,601
Cement Cost	\$16
Equipment Cost	\$2,338
Labor Cost	\$1,177
Fuel Cost	\$220
Non Slip Drill Hole Plugs	<u>\$9</u>
Total Plugging Cost/Drill Hole	\$5,360

Ttoal Plugging Cost for 38 Drill Holes	\$203,694
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Clean Nuclear Energy EXNI-453
 Plug Drill Holes with Cement Grout

$$Volume(ft^3) = D_i(in)^2 \cdot 0.005454 \cdot L(ft)$$

Drill Hole Diameter	6.5 inches
Drill Hole Volume	0.23 cf/ft
Drill Hole Volume	1.72 gallons/ft
Maximum Drill Hole Depth	700 ft

Cement Grout

Cement Grout Plugging Depth	697 ft
Volume of Cement Grout Required*	1,502 gallons
Cement Grout Yield	12.94 gallons per bag
Bags of Cement per Foot	0.20
Number of Bags of Cement Required	92.62 bags
Round To	93.00 bags
Cost per Bag of Cement	\$15.75 /bag
Total Cement Cost/Drill Hole	\$1,465
Number of Bags of Bentonite Required	10.49 bags
Round To	11.00 bags
Cost per Bag of Bentonite	\$33.00 /bag
Total Bentonite Cost/Drill Hole	\$363
Grout Pumping Rate	17.95 gallons/min

*Accounts for 25% Loss to Formation

Water Required

Water Needed for Cement Grout	9.1 gallons per bag
Total Cement Grout Water Required	846 gallons

Equipment

Plugging Drill Rig	\$370 /hr
2,000 Gallon Water Truck	\$27 /hr
Total Equipment Cost	\$397

Fuel

Cost of fuel (\$/gal):	\$3.56 /gal	
EQUIPMENT	HOURS	CONSUMP.
Drill Rig	5.9	4.8 gal/hr
Water Truck	4.0	8.4 gal/hr
Total Cost =	\$220	

Labor

Hole Plugging Labor	\$200 /hr
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Other

Non Slip Drill Hole Plugs	8.61 /plug
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Hole Plugging Hours Per Hole

Set Up, Take Down, and Move to Next Hole	2 hours
Trip into Drill Hole	2 hours
Remove Casing	0 hours
Bentonite Grout Fill Time	1.39 hours
Cement Plug Time	0.5 hours
Total Time per Drill Hole	5.89 hours

Total Plugging Cost/Drill Hole

Bentonite Cost	\$363
Cement Cost	\$1,465
Equipment Cost	\$2,342
Labor Cost	\$1,179
Fuel Cost	\$220
Non Slip Drill Hole Plugs	<u>\$9</u>
Total Plugging Cost/Drill Hole	\$5,577

Total Plugging Cost for 10 Drill Holes \$55,772

Clean Nuclear Energy EXNI-453
Seed and Fertilizer Cost Summary

South Dakota state & local sales tax 6.50%

SEED COSTS

SEED TYPE	APPLICATION RATE	SEED COST	SALES TAX	SEED COST WITH TAX
Western Wheatgrass	10.98 lbs PLS/acre	\$9.75 /lb PLS	6.50%	\$10.38 /lb PLS
Slender Wheatgrass	0.23 lbs PLS/acre	\$7.08 /lb PLS	6.50%	\$7.54 /lb PLS
Green Needlegrass	1.36 lbs PLS/acre	\$6.17 /lb PLS	6.50%	\$6.57 /lb PLS
Sideoats Grama	0.79 lbs PLS/acre	\$29.83 /lb PLS	6.50%	\$31.77 /lb PLS
Blue Grama	0.13 lbs PLS/acre	\$26.08 /lb PLS	6.50%	\$27.78 /lb PLS
Little Bluestem	0.46 lbs PLS/acre	\$16.58 /lb PLS	6.50%	\$17.66 /lb PLS
Purple Prairie Clover	0.11 lbs PLS/acre	\$39.00 /lb PLS	6.50%	\$41.54 /lb PLS
Buffalograss	3.27 lbs PLS/acre	\$33.50 /lb PLS	6.50%	\$35.68 /lb PLS

HYDROSEEDING/MULCHING COSTS

	COST	SALES TAX	COST/ ACRE
Hydroseeding	\$800 /acre	6.50%	\$852
Hydromulch	\$1,340 /acre	6.50%	<u>\$1,427</u>
Total			\$2,279

FERTILIZER COSTS

Application Rate 150 lbs/acre

Nitrogen (N) 18
Phosphorus (P) 46
Potassium (K) 0

	APPLICATION RATE	COST	SALES TAX	TOTAL COST	COST/ACRE
Nitrogen (N)	27 lbs/acre	\$1.35 /lb	6.50%	\$1.44 /lb	\$39
Phosphorus (P)	69 lbs/acre	\$0.45 /lb	6.50%	\$0.48 /lb	\$33
Potassium (K)	0 lbs/acre	\$0.40 /lb	6.50%	\$0.43 /lb	<u>\$0</u>
					\$72
Noxious Weed Spraying	\$5,000				

Clean Nuclear Energy EXNI-453

Equipment and Fuel Costs

Equipment Type	Cost/hr.
Cat 140M Grader	\$147.38 /hr
Cat D6T Dozer	\$110.00 /hr
Cat 980H Loader	\$105.40 /hr
Cat 770 (40 ton truck)	\$118.13 /hr
Cat 988H Loader	\$174.22 /hr
Cat 773 (50 ton truck)	\$181.88 /hr
Cat 637E Scraper	\$232.03 /hr
2,000 Gallon Water Truck	\$27.27 /hr
Plugging Drill Rig	\$340.00 /hr
Fuel	\$3.56 /gal

Clean Nuclear Energy EXNI-453
Labor Cost Summary

Davis Bacon Wage Rates

Fringe Benefits 41%

	Hourly Wage	Fringe	Total Hourly Wage
General			
Diesel Mechanic (Group 4 Heavy)	\$27.18	\$11.14	\$38.32
Equipment Operators			
Group 3 Heavy (Dozer, Loader, Grader)	\$26.07	\$10.69	\$36.76
Group 4 Heavy (Scraper)	\$27.18	\$11.14	\$38.32
Group 2 Truck Drivers	\$25.88	\$10.61	\$36.49

*Specific fringe benefits listed in Davis Bacon wage rates

Salaried Personnel

Construction Manager	\$130,000 /yr	2023 Means Site Work & Cost Data
Field Engineer	\$113,360 /yr	2023 Means Site Work & Cost Data

Earthmoving & Topsoil Stockpile Summary Area

[illegible]

Clean Nuclear Energy EXN1-453
Reclamation Bond Acreage Summary

Bond Area	Grading Status	Plan View Acres	Slope Acreage Adjustment	Bond Acres
Drill Pads and Mud Pits	Flats	3.97		3.97
Roads	Flats			0
Topsoil Stockpile	Flats			0
Total		3.97	0	3.97

Drill Pad Area

Length	60 ft
Width	60 ft
Area	0.08 acres
Total Area for 48 Drill Pads	3.97 acres

Mud Pits Volume

Length	10 ft
Width	5 ft
Depth	6 ft
Volume Per Mud Pit	11.11 cy
Sandstone Bulking (Swell) Factor	1.54
Volume Per Mud Pit with Swell Factor	17.11 cy
Total Volume for 48 Mud Pits	821 cy

Clean Nuclear Energy EXNI-453
Contingency for Craven Canyon Rock Art Repair
(Based on previous US Forest Service repair and
assessment ecosts in Craven Canyon)

Estimated Cost to Repair Each Rock Art Feature	\$11,000
Number of Rock Art Features	14
Total	\$154,000
Estimated Assessment Cost	<u>\$6,500</u>
Total	\$160,500
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Contingency (25%)	\$40,125
Administration (5%)	\$8,025
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Total	\$208,650

CLEAN NUCLEAR ENERGY
EXNI-453
2025 BOND CALCULATION

Plug 38 Drill Holes	\$205,429
Drill Pads & Mud Pits	\$13,798
Spread Topsil with Dozer	\$3,494
Drill Hole Plugging Supervisor	\$10,400
Noxious Weed Spraying	\$5,000
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Subtotal	\$238,121
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Mobilization (25%)	\$59,530
Contractor Overhead (8%)	\$19,050
State Excise Tax (2%)	\$4,762
Contractor Profit (10%)	\$23,812
Contingency (5 %)	\$11,906
Insp., Adm., & Maint. (5%)	\$11,906
Scope and Bid Contingency (5%)	\$11,906
<hr/>	
Total	\$380,993
Contingency for Damage to Craven Canyon Rock Art	\$208,650
Total	\$589,643
Total with Inflation Cost Adjustment @ 3% for 3 Years	\$644,319
ROUND TO	\$644,300

CLEAN NUCLEAR ENERGY CORP
URANIUM EXPLORATION PERMIT 453 BOND CALCULATION
GENERAL INFORMATION & ASSUMPTIONS

1. The bond calculation covers the entire affected area. A total of 3.14 acres was used in the calculation to covers the costs of reclaiming all 38 drill holes, along with the mud pits and drill pads for each hole and associated disturbance.
2. The calculations are based on the actual cost that would accrue to the state if it had to hire a third-party contractor to conduct reclamation at the site.
3. In a worst-case scenario, eight exploration holes will need to be plugged with cement grout to account for various geologic and hydrologic conditions. The remaining 30 exploration holes will be plugged with high quality bentonite grout.
4. The length of each hole that will be plugged with cement grout is 697 feet, with the upper three feet filled with drill cuttings for a total hole depth of 700 feet. The length of each hole that will be plugged with bentonite grout is 692 feet, with a five foot cement plug placed over the bentonite grout followed by three feet of drill cuttings for a total hole depth of 700 feet. The diameter of each exploration hole is 6.5 inches. It will take a drill rig and crew two hours to trip in and out and plug each hole with cement or bentonite grout.
5. The Earthmoving Summary contains information on volumes of material to be moved and graded, available topsoil volumes and application, and revegetation acreage. The following assumption was used in the summary:
 - a. A Cat D6 dozer will move 3,791 LCY of material to backfill the mud pits and regrade and apply topsoil to the disturbed areas.
6. The Equipment and Fuel Cost Summary contains information on equipment and fuel costs used in the calculation. The equipment costs are based on average rates obtained from two Caterpillar dealers and do not include fuel. A delivered fuel cost of \$3.56/gallon was used in the calculation.
7. The Labor Cost Summary contains information on equipment operator and site support staff wages. South Dakota Davis Bacon wage rates were used to determine equipment operator and other wages.
8. All equipment will run at 80 percent efficiency. This is obtained from the Cat Handbook and other bond calculation references.
9. The Seed and Fertilizer Cost Summary contains information on seed, hydroseeding, hydromulching, and fertilizer application rates and costs. It is assumed that 50 percent of the area will need to be reseeded after the initial seeding attempt. Seed costs are based on average rates from three seed companies. Hydroseeding, hydromulching, and fertilizer

costs are based on a quotes from an area seeding company. Sales tax has been applied to these costs.

10. A cost of \$5,000 was assumed to control noxious weeds at the mine site.
11. A cost of \$2,000 was assumed for erosion control.
12. A cost of \$10,400 was calculated to cover the costs for a hole plugging supervisor.
13. The following indirect costs were added to the direct cost:

Mobilization/Demobilization	25%
Contractor Overhead	8%
State Excise Tax	2%
Contractor Profit	10%
Contingency	5%
Administration	5%
Scope and Bid	5%
Total	60%

14. A contingency cost of \$208,650 was calculated to cover costs to repair damage to 14 rock art features in Craven Canyon. The costs are based on US Forest Service cost to repair vandalized rock art features in the canyon in 2008 and 2015 which have been updated for inflation. Indirect costs applied to the direct repair costs include 25 percent contingency and 5 percent DANR administration.

Drill Pads & Mud Pits

RIPPING FLAT AREAS

Dozer Type:	Cat D6T Dozer
Ripper Spacing (ft):	3
Avg. Speed (mph):	1
Avg. Pass (ft):	50
Man. Time (min):	0.25
Acreage (acres):	3.14
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Travel Distance =	45593 ft
Number of Passes =	912 passes
Total Time @ 80% eff =	15.5 hrs
Cost =	\$2,275

MATERIAL MOVING WITH DOZER (Backfill Mud Pits)

Dozer Type:	Cat D6T Dozer
Blade Type:	Universal
Avg. Doze Dist. (ft.):	100
Vol. of Mat. (cy):	650 (estimation)
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Is mat. being moved to reduce slopes of heap, dump or other stockpile? Enter 1 if yes, 2 if no:	2
Production =	168 cy/hr
Total Time @ 80% Eff. =	4.8 hrs
Cost =	\$704

SEED COSTS

SEED TYPE

APPL.

RATE

COST

Western Wheatgrass

10.98 lbs/acre

\$10.38 /lb

Slender Wheatgrass

0.23 lbs/acre

\$7.54 /lb

Green Needlegrass

1.36 lbs/acre

\$6.57 /lb

Sideoats Grama

0.79 lbs/acre

\$31.77 /lb

Blue Grama

0.13 lbs/acre

\$27.78 /lb

Little Bluestem

0.46 lbs/acre

\$17.66 /lb

Purple Prairie Clover

0.11 lbs/acre

\$41.54 /lb

Buffalograss

3.27 lbs/acre

\$35.68 /lb

Acreage (acres):

3.14 acres

Cost =

\$888

SEEDING COSTS

Acreage (acres):	3.14
Cost (\$/acre):	\$852
Total Cost =	\$2,675

HYDOMULCH (WOOD FIBER)

Acreage (acres):	3.14
Cost (\$/acres):	\$1,427
Total Cost =	\$4,481

FERTILIZER

N Appl. Rate (lbs/acre):	27
P Appl. Rate (lbs/acre):	69
K Appl. Rate (lbs/acre):	0
N Cost (\$/lb):	\$1.44
P Cost (\$/lb):	\$0.48
K Cost (\$/lb):	\$0.43
Acreage (acres):	3.14
Total Cost =	\$226

FUEL COSTS

Cost of fuel (\$/gal):	\$3.92 /gal	
EQUIPMENT	HOURS	CONSUMP.
Cat D6T Dozer	20.3	7.6 gal/hr
Cat 637E Scraper	0.0	11.5 gal/hr
Cat 16M Grader	0.0	9.0 gal/hr
Cat 980 Loader	0.0	8.4 gal/hr
Cat 988H Loader	0.0	16 gal/hr
Cat 773 Truck	0.0	14.5 gal/hr
Cat 770 Truck	0.0	13.5 gal/hr
Total Cost =	\$605	

MISC. COSTS

Erosion Control	\$2,000
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TOTAL COST = \$13,854

Topsoil Stockpiles

MATERIAL MOVING WITH DOZER (Replace Topsoil)

Dozer Type:	Cat D6T Dozer
Blade Type:	Universal
Avg. Doze Dist. (ft.):	100
Vol. of Mat. (cy):	3,369 (estimation)
Cost for Dozer (\$/hr):	\$110.00
Cost for Oper. (\$/hr):	\$36.76
Is mat. being moved to reduce slopes of heap, dump or other stockpile? Enter 1 if yes, 2 if no:	2
Production =	210 cy/hr
Total Time @ 80% Eff. =	20.1 hrs
Cost =	\$2,950

FUEL COSTS

Cost of fuel (\$/gal):		\$3.92 /gal	
EQUIPMENT	HOURS		CONSUMP.
Cat D6T Dozer	20.1		7.6 gal/hr
Cat 637E Scraper	0.0		11.5 gal/hr
Cat 16M Grader	0.0		9.0 gal/hr
Cat 980 Loader	0.0		8.4 gal/hr
Cat 988H Loader	0.0		16 gal/hr
Cat 773 Truck	0.0		14.5 gal/hr
Cat 770 Truck	0.0		13.5 gal/hr
Total Cost =		\$599	

MISC. COSTS

TOTAL COST = \$3,549

Clean Nuclear Energy EXNI-453
Plug Drill Holes with Bentonite Grout

$$Volume(ft^3) = D_1(in)^2 \cdot 0.005454 \cdot L(ft)$$

Drill Hole Diameter	6.5 inches
Drill Hole Volume	0.23 cf/ft
Drill Hole Volume	1.72 gallons/ft
Maximum Drill Hole Depth	700 ft

Bentonite Grout

Bentonite Grout Plugging Depth	692 ft
Volume of Bentonite Grout Required*	1,491 gallons
Bentonite Grout Yield	22.3 gallons per bag
Number of Bags of Bentonite Required	66.90 bags
Round To	67.00 bags
Cost per Bag of Bentonite	\$23.90 /bag
Total Bentonite Cost/Drill Hole	\$1,601
Grout Pumping Rate	17.95 gallons/min

*Accounts for 25% Loss to Formation

Place Cement Grout and Drill Cuttings or Bentonite Chips over Bentonite Grout

Cement Grout

Cement Grout Depth	5 ft
Volume of Cement Required	8.62 gallons
Cement Yield	8.82 gallons per bag
Number of Bags of Cement Required	1 bag
Cost per Bag of Portland Cement	\$15.75 /bag
Total Cement Cost/Drill Hole	\$15.75

Bentonite Chips

Bentonite Chips Depth	0 ft
Volume of Bentonite Chips Required	0.00 cf
Bentonite Chip Bulk Density	0.70 cf/bag
Feet Filled by One Bag	3.04
Bags Required	0.00 bags
Round to	0.00 bags
Cost per bag	\$10.54
Total Chipped Bentonite Cost	\$0

Water Required

Water Needed for Bentonite Grout	20 gallons per bag
Total Bentonite Grout Water Required	1,340 gallons
Water Needed for Cement	6 gallons per bag
Total Cement Water Required	6 gallons
Total Water Required/Drill Hole	1,346 gallons

Equipment

Plugging Drill Rig	\$370 /hr
2,000 Gallon Water Truck	\$27 /hr
Total Equipment Cost	\$397

Fuel

Cost of fuel (\$/gal):	\$3.92 /gal	
EQUIPMENT	HOURS	CONSUMP.
Drill Rig	5.9	4.8 gal/hr
Water Truck	4.0	8.4 gal/hr
Total Cost =	\$242	

Labor

Hole Plugging Labor	\$200 /hr
Other	
Non Slip Drill Hole Plugs	\$8.61 /plug

Hole Plugging Hours Per Hole

Set Up, Take Down, and Move to Next Hole	2 hours
Trip Into and Out of Drill Hole	2 hours
Remove Casing	0 hours
Bentonite Grout Fill Time	1.38 hours
Cement Grout Fill Time	0.5 hours
Total Time per Drill Hole	5.88 hours

Total Plugging Cost/Drill Hole

Bentonite Cost	\$1,601
Cement Cost	\$16
Equipment Cost	\$2,338
Labor Cost	\$1,177
Fuel Cost	\$242
Non Slip Drill Hole Plugs	<u>\$9</u>
Total Plugging Cost/Drill Hole	\$5,383

Ttoal Plugging Cost for 30 Drill Holes	\$161,479
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Clean Nuclear Energy EXNI-453
 Plug Drill Holes with Cement Grout

$$Volume(ft^3) = D_i(in)^2 \cdot 0.005454 \cdot L(ft)$$

Drill Hole Diameter	6.5 inches
Drill Hole Volume	0.23 cf/ft
Drill Hole Volume	1.72 gallons/ft
Maximum Drill Hole Depth	700 ft

Cement Grout

Cement Grout Plugging Depth	697 ft
Volume of Cement Grout Required*	1,502 gallons
Cement Grout Yield	12.94 gallons per bag
Bags of Cement per Foot	0.20
Number of Bags of Cement Required	92.62 bags
Round To	93.00 bags
Cost per Bag of Cement	\$15.75 /bag
Total Cement Cost/Drill Hole	\$1,465
Number of Bags of Bentonite Required	10.49 bags
Round To	11.00 bags
Cost per Bag of Bentonite	\$33.00 /bag
Total Bentonite Cost/Drill Hole	\$363
Grout Pumping Rate	17.95 gallons/min

*Accounts for 25% Loss to Formation

Water Required

Water Needed for Cement Grout	9.1 gallons per bag
Total Cement Grout Water Required	846 gallons

Equipment

Plugging Drill Rig	\$370 /hr
2,000 Gallon Water Truck	\$27 /hr
Total Equipment Cost	\$397

Fuel

Cost of fuel (\$/gal):	\$3.92 /gal	
EQUIPMENT	HOURS	CONSUMP.
Drill Rig	5.9	4.8 gal/hr
Water Truck	4.0	8.4 gal/hr
Total Cost =	\$243	

Labor

Hole Plugging Labor	\$200 /hr
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Other

Non Slip Drill Hole Plugs	\$8.61 /plug
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Hole Plugging Hours Per Hole

Set Up, Take Down, and Move to Next Hole	2 hours
Trip into Drill Hole	2 hours
Remove Casing	0 hours
Bentonite Grout Fill Time	1.39 hours
Cement Plug Time	0.5 hours
Total Time per Drill Hole	5.89 hours

Total Plugging Cost/Drill Hole

Bentonite Cost	\$363
Cement Cost	\$1,465
Equipment Cost	\$2,342
Labor Cost	\$1,179
Fuel Cost	\$243
Non Slip Drill Hole Plugs	<u>\$9</u>
Total Plugging Cost/Drill Hole	\$5,599

Total Plugging Cost for 8 Drill Holes \$44,796

Clean Nuclear Energy EXN1-453
Seed and Fertilizer Cost Summary

South Dakota state & local sales tax 6.50%

SEED COSTS

SEED TYPE	APPLICATION RATE	SEED COST	SALES TAX	SEED COST WITH TAX
Western Wheatgrass	10.98 lbs PLS/acre	\$9.75 /lb PLS	6.50%	\$10.38 /lb PLS
Slender Wheatgrass	0.23 lbs PLS/acre	\$7.08 /lb PLS	6.50%	\$7.54 /lb PLS
Green Needlegrass	1.36 lbs PLS/acre	\$6.17 /lb PLS	6.50%	\$6.57 /lb PLS
Sideoats Grama	0.79 lbs PLS/acre	\$29.83 /lb PLS	6.50%	\$31.77 /lb PLS
Blue Grama	0.13 lbs PLS/acre	\$26.08 /lb PLS	6.50%	\$27.78 /lb PLS
Little Bluestem	0.46 lbs PLS/acre	\$16.58 /lb PLS	6.50%	\$17.66 /lb PLS
Purple Prairie Clover	0.11 lbs PLS/acre	\$39.00 /lb PLS	6.50%	\$41.54 /lb PLS
Buffalograss	3.27 lbs PLS/acre	\$33.50 /lb PLS	6.50%	\$35.68 /lb PLS

HYDROSEEDING/MULCHING COSTS

	COST	SALES TAX	COST/ ACRE
Hydroseeding	\$800 /acre	6.50%	\$852
Hydromulch	\$1,340 /acre	6.50%	<u>\$1,427</u>
Total			\$2,279

FERTILIZER COSTS

Application Rate	150 lbs/acre
Nitrogen (N)	18
Phosphorus (P)	46
Potassium (K)	0

	APPLICATION RATE	COST	SALES TAX	TOTAL COST	COST/ACRE
Nitrogen (N)	27 lbs/acre	\$1.35 /lb	6.50%	\$1.44 /lb	\$39
Phosphorus (P)	69 lbs/acre	\$0.45 /lb	6.50%	\$0.48 /lb	\$33
Potassium (K)	0 lbs/acre	\$0.40 /lb	6.50%	\$0.43 /lb	<u>\$0</u>
					\$72
Noxious Weed Spraying	\$5,000				

Clean Nuclear Energy EXNI-453

Equipment and Fuel Costs

Equipment Type	Cost/hr.
Cat 140M Grader	\$147.38 /hr
Cat D6T Dozer	\$110.00 /hr
Cat 980H Loader	\$105.40 /hr
Cat 770 (40 ton truck)	\$118.13 /hr
Cat 988H Loader	\$174.22 /hr
Cat 773 (50 ton truck)	\$181.88 /hr
Cat 637E Scraper	\$232.03 /hr
2,000 Gallon Water Truck	\$27.27 /hr
Plugging Drill Rig	\$340.00 /hr
Fuel	\$3.92 /gal

Clean Nuclear Energy EXNI-453
Labor Cost Summary

Davis Bacon Wage Rates

Fringe Benefits 41%

	Hourly Wage	Fringe	Total Hourly Wage
General			
Diesel Mechanic (Group 4 Heavy)	\$27.18	\$11.14	\$38.32
Equipment Operators			
Group 3 Heavy (Dozer, Loader, Grader)	\$26.07	\$10.69	\$36.76
Group 4 Heavy (Scraper)	\$27.18	\$11.14	\$38.32
Group 2 Truck Drivers	\$25.88	\$10.61	\$36.49

*Specific fringe benefits listed in Davis Bacon wage rates

Salaried Personnel

Construction Manager	\$130,000 /yr	2023 Means Site Work & Cost Data
Field Engineer	\$113,360 /yr	2023 Means Site Work & Cost Data

Area

Topsoil Density	2700 lb/bcy
Topsoil Bulking (Swell) Factor	1.33
Topsoil Compaction Factor	0.86
Topsoil Required	3,369

Clean Nuclear Energy EXNI-453
Reclamation Bond Acreage Summary

Bond Area	Grading Status	Plan View Acres	Slope Acreage Adjustment	Bond Acres
Drill Pads and Mud Pits	Flats	3.14		3.14
Roads	Flats			0
Topsoil Stockpile	Flats			0
Total		3.14	0	3.14

Drill Pad Area

Length	60 ft
Width	60 ft
Area	0.08 acres
Total Area for 38 Drill Pads	3.14 acres

Mud Pits Volume

Length	10 ft
Width	5 ft
Depth	6 ft
Volume Per Mud Pit	11.11 cy
Sandstone Bulking (Swell) Factor	1.54
Volume Per Mud Pit with Swell Factor	17.11 cy
Total Volume for 38 Mud Pits	650.22 cy
Round To	650 cy

Clean Nuclear Energy EXNI-453
Reclamation Bond Acreage Summary

Bond Area	Grading Status	Plan View Acres	Slope Acreage Adjustment	Bond Acres
Drill Pads and Mud Pits	Flats	3.14		3.14
Roads	Flats			0
Topsoil Stockpile	Flats			0
Total		3.14	0	3.14

Drill Pad Area

Length	60 ft
Width	60 ft
Area	0.08 acres
Total Area for 38 Drill Pads	3.14 acres

Mud Pits Volume

Length	10 ft
Width	5 ft
Depth	6 ft
Volume Per Mud Pit	11.11 cy
Sandstone Bulking (Swell) Factor	1.54
Volume Per Mud Pit with Swell Factor	17.11 cy
Total Volume for 38 Mud Pits	650.22 cy
Round To	650 cy

Clean Nuclear Energy EXNI-453
Contingency for Craven Canyon Rock Art Repair
(Based on previous US Forest Service repair and
assessment ecosts in Craven Canyon)

Estimated Cost to Repair Each Rock Art Feature	\$11,000
Number of Rock Art Features	14
Total	\$154,000
Estimated Assessment Cost	<u>\$6,500</u>
Total	\$160,500

Contingency (25%)	\$40,125
Administration (5%)	\$8,025

Total	\$208,650

Curriculum Vitae

Eric Holm, EIT
407 South Pierce
Pierre, SD 57501
Home (605) 224-2657 Cell (605) 222-4061
Email: eric.holm@state.sd.us

PROFESSIONAL REGISTRATIONS

December 18, 1997 Engineer-in-Training (E-7985)

EXPERIENCE

2011 – Present Engineer III
South Dakota Department of Agriculture and Natural Resources
Minerals, Mining, and Superfund Program

- Reviewed complex mine permit applications, such as large scale gold mine permit applications. Lead reviewer of other large and small scale mine permit, scenic and unique, permit amendment, and technical revision applications.
- Conducted mine and exploration inspections, including annual audits of large scale gold mines. Led large scale gold mine audits in June 2011 during absence of team leader.
- Reviewed complex mine plans and specifications for leach pad lining systems, multi-layer cap designs, and culvert designs for large scale gold mines and the Gilt Edge Superfund Project.
- Issued warning letters on several mine permits for non-compliance with state laws and regulations and permit conditions. No notices of violation or permit revocations were required due to operator compliance.
- Periodically updated BONDALC reclamation and postclosure bond calculation programs. Used updated programs to calculate reclamation and postclosure bond amounts for large scale gold and other mines and mineral and uranium exploration projects.
- Represented South Dakota in meetings and webinars with EPA on proposed CERCLA 108(b) financial assurance rules. Gave presentations to EPA and the White House Office of Information and Regulatory Affairs on South Dakota bonding procedures.
- Gave presentations to the Board of Minerals and Environment on reclaimed mine sites meeting release criteria, reclamation, postclosure and cyanide spill bond adjustments, large scale mine permit applications, reclamation and postclosure bonding procedures, CERCLA 108(b) financial assurance rules, and other items.

1990 – 2011 Natural Resources Engineer II/Project Engineer
South Dakota Department of Environment and Natural Resources
Minerals and Mining Program

- Lead reviewer of several small and large scale mine permit, scenic and unique, permit amendment, and technical revision applications, including the conversion of small scale granite quarry permits to large scale permits.
- Conducted mine and exploration inspections, including annual reclamation inspections and audits of large scale gold mines.
- Reviewed several complex plans and specification packages for leach pad lining systems and multi-layer capping systems.
- Periodically upgraded BONDALC reclamation bond calculation program, including considerable research into reclamation cost analysis and development of a postclosure bond calculation program. Used upgraded program to calculate increases in large scale gold mine reclamation bonds.
- Issued enforcement actions on several EXNI's and mine permits, including warning letters, notices of violation and orders, and revocations of EXNI's and mine permits.
- Presented mine license and permit releases of reclamation liability, reclamation, postclosure, and cyanide spill bond adjustments, and mine permit applications to the Board of Minerals and Environment.
- Temporarily assumed some duties of vacant hydrologist position, including EXNI application and annual report reviews.
- Trained new employees on correct EXNI and mine permit application review and inspection protocol.

1988 – 1990 Natural Resources Engineer I
 South Dakota Department of Water and Natural Resources
 Exploration and Mining Program

- Reviewed mining permit applications, including technical revisions, and annual reports to ensure compliance with state mining laws and regulations.
- Reviewed mine plans and specifications for heap leach pad and process pond lining systems and sediment and erosion control structures.
- Conducted annual and construction inspections of mine permitted facilities, including leach pad and pond lining systems.
- Calculated reclamation bonds for small and large scale mine permits.
- Implemented conversion of pegmatite mines from mine permits to mine licenses.

1984 – 1988 Natural Resources Analyst
 South Dakota Department of Water and Natural Resources
 Exploration and Mining Program

- Reviewed mine license applications, notices of intent to mine, and annual reports to ensure compliance with state mining law.
- Developed and maintained a system for organizing and analyzing all program water quality data.
- Assisted in water sample collection to monitor large scale gold mines.
- Witnessed plugging of oil and gas exploration drill holes.
- Conducted numerous construction aggregate inspections and several inspections of EXNI

and mine permit operations.

EDUCATION

May 1984 Bachelor of Science Environmental Engineering, Montana Tech
May 1984 Associate of Science Engineering, Montana Tech

CONTINUING EDUCATION

August 21 and 22, 2013	Interstate Mining Compact Commission Bonding Workshop, St. Louis, MO.
November 28 through 30, 2006	EPA Alternative Covers for Landfills Workshop, Denver, CO.
April 27 through 29, 1999	Mine Design Operations and Closure Conference, Polson, MT.
April 21 through 23, 1998	Office of Surface Mining Cost Estimation Bonding Workshop, Cincinnati, OH.
August 4 through 6, 1992	Sampling for Hazardous Materials, Pierre, SD.
December 13 and 14, 1990	Effective Writing, Pierre, SD.
June 18 through 22, 1990	HAZWOPR Personnel Protection and Safety, Pierre, SD.
May 5 through 7, 1987	Introduction to Ground Water Investigations, Pierre, SD.

PUBLICATIONS

1992 to 2011	Annual Summary of the Mining Industry in South Dakota
1995 to 2008	South Dakota Mining Summary – Mining Engineering Magazine (Co-authored with other Minerals and Mining Program personnel)

COMMITTEES

1991 to 1994	Best Minerals Management Practices sub-committee on pegmatite mining.
1991	Brohm expansion inter-disciplinary team.
2016	Interstate Mining Compact Commission short term working group on bonding requirements for the hard rock mining industry.



February 21, 2025

Redacted

Crystal Hocking
RESPEC
3824 Jet Drive
Rapid City, SD 57703

SDCL 1-19A-11.1 Consultation

Project: 240312001S – Clean Nuclear Energy Corp. Uranium Exploration Permit

Location: Fall River

DANR - South Dakota Department of Agriculture and Natural Resources

Dear Ms. Hocking,

Thank you for the opportunity to comment on the above referenced project pursuant to SDCL 1-19A-11.1. SDCL 1-19A-11.1 outlines a specific process that must be followed prior to any governmental action, including the issuance of permits, that may harm any historic property that is included in the National or State Registers of Historic Places. The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments concerning effect of the proposed project on the non-renewable cultural resources of South Dakota.

On March 12, 2024, the SHPO received a cover letter regarding the submission of a Uranium Exploration Permit Application to the South Dakota Department of Agriculture and Natural Resources (DANR) from Mike Blady of Clean Nuclear Energy Corp. as well as the Uranium Permit Application itself as a notification of the above-referenced project to conduct exploratory drilling for uranium ore at Township 7S, Range 2E, Section 36. A letter from DANR was received on March 20, 2024 which acknowledged the receipt of the aforementioned Uranium Exploration Permit Application.

On March 22, 2024, SHPO requested an abbreviated case report to investigate potential direct, indirect, and cumulative effects of the proposed exploratory drilling on the nearby historic properties. On October 29, 2024, SHPO received the abbreviated case report titled, "Black Hills National Forest Craven Canyon Rock Art Abbreviated Case Report VPS #SD24-7 Fall River County, South Dakota Section 31, Township 7 S, Range 3 Section 25, Township 7 South, Range 2 E Section 30, Township 7 South, Range 3 September 9, 2024" prepared by Corinne Headley and Jana Morehouse of Vantage Point Solutions and a cultural resource inventory report for the portions of the project located on State lands titled, "Cultural Resource Inventory for the Clean Nuclear Energy Craven Canyon Uranium Exploration Project VPS #SD24-7 Fall River County, South Dakota Township 7S, Range 2E, Section 36 September 6, 2024 SD State Permit # SP-24-009" prepared by Will Alexander, Sydney Russell, and Jana Morehouse of Vantage Point Solutions. Additional Information clarifying the project scope was received on December 6, 2024. Further information, including the on-site Plan of Operations (PoO), was received on January 13, 2025. GIS shapefiles of the drilling locations on state land was received by SHPO on January 24, 2025.

Based upon the information provided, the proposed drilling project consists of up to 50 drill platforms on State-owned land, each creating a vertical exploration hole with a maximum depth of 213 m (700 ft). Each drill hole will require approximately two weeks to complete exploratory drilling activities and abandon. Drilling will occur on a 18.3-meter by 18.3-meter (60-feet by 60-feet) drill pad with 335 square meters



(0.08 acres) or less of disturbance per site. A recirculation mud pit measuring approximately 3.05-meter by 1.52-meter by 1.83-meter (10-feet by 5-feet by 6-feet) will be excavated on each site.

The abbreviated case report indicated that of the twelve rock art and petroglyph sites within the 1-mile study area, four rock art sites [REDACTED] be partially visible within the viewshed of the project area. Additionally, one drill pad (Pad 33) is within the boundaries of a suspected burial site [REDACTED]. Given the nature of the site, this drill pad should be moved to another location or removed from the project entirely. Given the distance, geology of the area, and the delicate nature of the archaeological sites potentially affected by the proposed drilling, a case report was requested to further assess potential visual, fluid, vibratory, and auditory effects.

The abbreviated case report indicated that vibratory effects from drilling are difficult to detect past 50 meters from the drilling equipment, with the nearest site being over 260 meters away from the drill site. As such, the risk of damage to these sites is low, given their distance from the drilling equipment.

The abbreviated case report also indicated that while dust created during operations is unavoidable, the dust's effects to the sites will be mitigated by following OSHA guidelines for protecting drill crews from silica dust, which includes ground saturation by a water truck during dry and high wind conditions, wet drilling, wet dust suppression of drill exhaust, and use of extended drill shrouds. Fluid impacts will be managed by the creation of a berm lined with a geomembrane around the fuel storage area, which will be designed to accommodate a 110% spill. Additionally, spill absorbing material will be on site for use in the event of a petroleum spill. Once drilling is completed, the drill solids will be buried in a sump lined with a biodegradable liner or a plastic liner, and the entirety of that will be removed. Once the sump is closed, the ground will be mulched and seeded.

There will be temporary effects to the sites during drilling operations which may consist primarily of auditory and visual effects, but may include particulate effects during dry and windy conditions. These effects, however, should only last during drilling activities.

Therefore, SHPO has made the following determination that the proposal will not encroach upon, damage, or destroy a historic property which is included in the National and State Registers of Historic Places, pursuant to SDCL 1-19A-11.1, provided that the twelve listed rock art sites are inspected pre- and post-construction by qualified personnel, a report documenting the condition of the sites will be submitted to SHPO within forty-five days after drilling has concluded, the environmental mitigation measures outlined in the case report are followed, and site [REDACTED] is avoided by all drilling activities.

The credentials and work experience of the inspection candidate can be submitted to SHPO for review. Previous experience in identifying and documenting rock art is preferred.

During the pre-construction inspection, there must be significant background research of the sites identified. Background research should include details of the sites from previous reports, site files, the original National Register of Historic Places (NRHP) nomination forms, or other available forms of previous documentation of these sites. During the inspection, these sites must be identified, mapped with accurate geospatial data (including the rock art panels themselves), and rigorously documented with sketches as well as National Register quality photos (at least 2000x3000 pixels and 300dpi, submitted in TIFF format). These photos must be submitted to SHPO via hard disk along with the final report. Scans of previous sketches may be used to document any changes that have happened between the original sketch and the pre-construction sketch. Then, any post-construction changes should be documented relative to their pre-construction condition.

The post-construction inspection will document any changes in the integrity of the sites after the drilling has completed. In the final report, the condition of the sites pre- and post-construction will be compared in





order to assess any effects to the sites or deterioration which may have occurred during work. This includes, but is not limited to, increased dust coverage, stone layers peeling-off the rock face, or hydraulic extrusion through or over the canyon walls. SHPO must respond within thirty days of their receipt of this final report, to acknowledge that the stipulations were followed, and to assess effects to these sites.

Additionally, if any tribes with an interest in this project wish to participate in the inspections, reasonable and good-faith accommodations should be made to facilitate this.

Finally, if any pertinent information is discovered during public meetings or hearings, or if specific concerns regarding effects to Historic Properties are brought forth by the public, SHPO would like the opportunity to comment on these concerns.

Should you require additional information or clarification on these stipulations or SHPO's comments on this project, please contact Jozef Lamfers at Jozef.Lamfers@state.sd.us or at 605-773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,
Garry Guan
State Historic Preservation Officer

A handwritten signature in black ink that reads "Jozef Lamfers".

Jozef Lamfers
Review & Compliance Archaeologist

CC:
Katie Lamie - Archaeological Research Center
Lynn Griffin - Archaeological Research Center
Megan Ostrenga Fabricius - Archaeological Research Center
Dustin Lloyd - Archaeological Research Center
Roberta Hudson - DANR
Eric Holm - DANR
Mike Lees - DANR
Mike Blady - Clean Nuclear Energy Corporation
John Glasscock - Clean Nuclear Energy Corporation
Jana Morehouse - Vantage Point Solutions

Curriculum Vitae

Jozef Lamfers

Review & Compliance Archaeologist

South Dakota Department of Education

State Historic Preservation Office

Pierre, South Dakota

Jozef Lamfers is the Review & Compliance Archaeologist with the South Dakota State Historic Preservation Office. He meets the Secretary of Interior Professional Qualification Standards as an archaeologist. Mr. Lamfers has a B.S. degree in Anthropology and German and a M.A. degree in Anthropology from Iowa State University in Ames, Iowa.

Mr. Lamfers has been employed as the Review and Compliance Archaeologist with the South Dakota State Historic Preservation Office since May 2022. Since that time, Mr. Lamfers has reviewed both state projects (under SDCL 1-19A-11.1) and federal undertakings (under Section 106 of the National Historic Preservation Act) to comment on potential effects to Historic Properties, participated in site inspections of projects which have the potential to affect historic properties, and acts as the liaison between the State Historic Preservation Office and the South Dakota Department of Transportation. His primary responsibilities involve reviewing and documenting federal and state projects under current preservation laws and assessing impacts to historic properties to ensure they are given due consideration during planning and implementation of projects in South Dakota.

Mr. Lamfers acted as the State Historic Preservation Office's reviewer for the Clean Nuclear Energy Corporation's Uranium Exploration Permit Application.

DANR EXHIBIT 10

JUNE 6 2025 LETTER FROM STATE ARCHEOLOGICAL RESEARCH CENTER

CONFIDENTIAL

as per SDCL § 1-20-21.2

Dustin Lloyd
1501 Cherry Ave, Apt B, Rapid City, SD 57701
(605)391-2928 (Work) (414) 702-8540 (Home/Personal)
Dustin.Lloyd@state.sd.us (Work) plloyd2020@yahoo.com (Personal)

Education

08/2012 - 05/2014 UW-Milwaukee Milwaukee, WI
BA of Liberal Arts - Anthropology
Major in Anthropology, Minor in Classical Greek and Latin Language Study,
Member of Golden Key and Lambda Alpha Honour Societies, Dean's Honor List,
Undergraduate Representative for UW-Milwaukee Anthropology Student Union
(ASU).

08/2015- 05/2017 Illinois State University Normal, IL
MS – Anthropology and Certificate in GIS
My focus was on bioarchaeology and bioanthropology of the Tennessee River
Valley with a focus on the Mississippian site of Toqua. My advisor was Dr. Maria
Smith.

Publications

Lloyd, Dustin. 2016. Effects of Picture References on Reproducibility of Entheseal Change
Recordation. *Field Notes: A Journal of Collegiate Anthropology* 8(1): 86-103.

Smith, Maria, Dustin Lloyd and Lindsey Helms Thorsen. In Press. Pre-Columbian Health Status
and Climate Change: 1300-1600 in Southern Appalachia. *International Journal of
Paleopathology*.

Presentations

Lloyd, Dustin. 2016. Effects of Picture References on Reproducibility of Entheseal Change
Recordation. Poster presented at Anthropology Student Union Colloquium, Milwaukee.

Lloyd, Dustin. 2016. Activity Patterns and Division of Labor at Toqua. Paper presented at 23rd
Midwest Bioarchaeology and Forensic Anthropology Conference, Chicago, Oct. 21-22.

Smith, Maria, Dustin Lloyd and Lindsey Helms Thorsen. 2017. Pre-Columbian Health Status
and Climate Change: 1300-1600 in Southern Appalachia. *Paleopathology Association Meetings*.

Work Experience

- | | | | |
|---|------|----------------|----------------------------------|
| 06-2019-Present | SARC | Rapid City, SD | <i>Burial/NAGPRA Coordinator</i> |
| <ul style="list-style-type: none">• Point of contact for the inadvertent discovery of human remains, repatriation, and tribal consultation for the South Dakota Archaeological Research Center. Specializes in bioarchaeology.• Responsible for South Dakota's federal compliance with all aspects of NAGPRA including osteological data collection and reports, tribal consultation, publication of NAGPRA resources in the federal register, and all steps of the repatriation process.• Responding to inadvertent discoveries of human remains across South Dakota on state, federal, and tribal lands. Inform law enforcement, tribal authorities, landowners, state or federal employees, and other reporting parties concerning the human or non-human bone they discovered.• Lead member of the Archaeological Research Center's Burial Committee, which convenes about a variety of burial and bioarcheological issues to write and issue letters of recommendation to state/federal agencies and/or private landowners concerning potential impacts of projects to prehistoric and historic burials.• Maintain and update the internal Archaeological Research Center's NAGPRA Database.• Review and make archaeological survey recommendations on a variety of mining projects across South Dakota including sand/gravel mining, small/large scale mineral mining, mineral exploration permits, and oil/gas permits.• Crew chief of small crews ranging from 2-6 people for small scale (bridge and barrow surveys) and large scale (multi-month wind and solar farms) projects | | | |
| 07/2014-05/2015 Cultural Commonwealth Resource Group (CCRG) Jackson, MI <i>Field Tech</i> | | | |
| <ul style="list-style-type: none">• Phase I Survey• Shovel testing, geomorphological soil description, pedestrian survey, identifying/recovering cultural resources, lab work and artifact curation. | | | |
| 05-08/2015 | SWCA | Pittsburgh, PA | <i>Field Tech</i> |
| <ul style="list-style-type: none">• Phase I/II Survey• Assistant Crew Chief• GPS/Trimble usage for artifact plotting, site delineation, and plotting of shovel test and test units• Shovel testing, geomorphological soil description, pedestrian survey, identifying/recovering cultural resources, lab work and artifact curation | | | |
| 08/2015-05/2017 | ISU | Normal, IL | <i>RA/Lab Manager</i> |
| <ul style="list-style-type: none">• Maintenance, upkeep, organization, and research of Woodland Period skeletal collection• Responsible for organizing and supervising undergraduate usage and data collection from the collection. | | | |

- | | | | |
|--|-------|---------------|-------------------|
| 05/2017-06/2019 | PSAAP | Champaign, IL | <i>Crew Chief</i> |
| <ul style="list-style-type: none"> • Phase I/II Survey • Crew chief of small crews ranging from 4-8 people • Small scale and large scale (multi-month and 1000+ acre wind and solar farms) projects • Involved in all aspects of project completion from initial background research through report writing stages • GIS data entry, maintenance, and field map creation • Field: shovel testing, pedestrian survey, monitoring machine trenches, GPS/Trimble data collection, recording soil information, recording and photographing architectural/historical resources • Research/reports: historical background research, short/long survey reports, addendum reports | | | |

Dr. Maria Smith 309-438-2271 msmith@ilstu.edu

Dr. Smith was my advisor at Illinois State University. We have worked together in both classroom and professional settings and taught me my skills in skeletal identification and paleopathology. She is a very good judge of my skill sets and talents.

Cassie Vogt 605-209-1443 Cassie.Vogt@state.sd.us

Cassie is the State Archaeologist for South Dakota. She is my current supervisor for the four years at the South Dakota Archaeological Research Center. I worked closely with her on many Section 106 projects from initial research and field work to report completion as well as NAGPRA repatriation and burial related projects.

MINE CONTACT REPORT FORM

Date of Call: _____ Date of E-mail: 07/14/2025
Telephone call to: _____ DENR Employee Contacted: Roberta Hudson
Operator Contacted: Mandy Pearson
Company: Game, Fish, and Parks
Telephone: _____
Staff Signature: \s/

On July 14, 2025, Mandy Pearson with GFP submitted the restrictions for the Clean Nuclear Uranium Exploration Permit 453. All communications with GFP, including providing the application to Stan Michals in 2024 and Mandy Pearson on May 13, 2025, are included below.

From: Hudson, Roberta
Sent: Tuesday, July 15, 2025 8:19 AM
To: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Cc: Speiser, Jessica <Jessica.Speiser@state.sd.us>
Subject: RE: Clean Nuclear Energy Comments

Thank you! I will only need to change "mining" out to "exploration". Otherwise, these will work!

Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

From: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Sent: Monday, July 14, 2025 6:15 PM
To: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Cc: Speiser, Jessica <Jessica.Speiser@state.sd.us>
Subject: RE: Clean Nuclear Energy Comments

Hi Roberta,

We are requesting round nesting bird, raptor nest, and bat roost surveys. I've detailed it below but feel free to not use the full verbiage.

Ground-Nesting Bird Surveys

If mining is scheduled during the nesting season (April-July), conduct surveys immediately prior to ground disturbance to avoid impacting active nests. Early surveys may not accurately reflect current nest activity. Submit nest locations and species observed to SDGFP to determine appropriate buffer distances.

Raptor Nest Surveys

Survey the project area and surrounding vicinity for active and inactive raptor nests. Document species, nest status, and distance to proposed mining operations. Submit active nest data to SDGFP to determine appropriate buffer distances.

Bat Roost Surveys

Survey all live/dead trees and geological structures within the project area, especially within 300 feet of drill pads or disturbance zones. Potential roosts must not be removed during the active bat season (May-September). Emergence surveys may be needed to confirm use. If bats or active roosts are found, maintain a 300-foot buffer. Submit potential/confirmed roost locations, observations, and survey results to SDGFP.

Thanks,

Mandy Pearson | *Senior Wildlife Biologist*
Wildlife Diveristy and Environmental Review
South Dakota Game, Fish, and Parks
4130 Adventure Trail | Rapid City, SD 57702
916.390.9031 | mandy.pearson@state.sd.us



From: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Sent: Monday, July 14, 2025 11:04 AM
To: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Subject: RE: Clean Nuclear Energy Comments

Mandy,

Do you have any restrictions for this application?

Thank you!

Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

From: Hudson, Roberta
Sent: Wednesday, June 4, 2025 8:16 AM
To: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Subject: RE: Clean Nuclear Energy Comments

No, you are not too late. I have until the end of July to develop conditions so they can be presented before the Board.

From: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Sent: Tuesday, June 3, 2025 6:54 PM
To: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Subject: Clean Nuclear Energy Comments

Hi Roberta,

Am I too late to submit comments for the Clear Nuclear Energy project that we visited on the 14th? Sorry about the delay. I can get that together asap, if I still have time.

Thanks,

Mandy Pearson | *Senior Wildlife Biologist*
South Dakota Game, Fish, and Parks
4130 Adventure Trail | Rapid City, SD 57702
916.390.9031 | mandy.pearson@state.sd.us



From: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Sent: Tuesday, May 13, 2025 4:11 PM
To: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Subject: RE: [EXT] Clean Nuclear Energy Exploration Application

I know the archaeology surveys were completed. I am not sure about any vegetation or wildlife surveys.

From: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Sent: Tuesday, May 13, 2025 5:09 PM
To: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Subject: RE: [EXT] Clean Nuclear Energy Exploration Application

Thanks Roberta! So is this project much further along than Lion Rock? It looks like a lot of surveys have been done already.

Mandy Pearson | *Senior Wildlife Biologist*
South Dakota Game, Fish, and Parks
4130 Adventure Trail | Rapid City, SD 57702
916.390.9031 | mandy.pearson@state.sd.us



From: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Sent: Tuesday, May 13, 2025 4:01 PM
To: Pearson, Mandy <Mandy.Pearson@state.sd.us>
Subject: FW: [EXT] Clean Nuclear Energy Exploration Application

Mandy,

Here is the Clean Nuclear application supplied to Stan Michals last year. I am not aware if Stan required any surveys for this area or if he followed up with Crystal Hocking as requested below.

As noted below, please keep test hole locations confidential as per SDCL 45-6D-15.

Please let me know if you have any restrictions.

See you tomorrow for the site inspection!

Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

From: Hudson, Roberta
Sent: Wednesday, March 20, 2024 8:57 AM
To: Michals, Stan <Stan.Michals@state.sd.us>
Subject: FW: [EXT] Clean Nuclear Energy Exploration Application

Stan,

I have attached the application she is referring to. Due to the proximity of the site to Craven Canyon we have not started a timeclock on this yet. Please let Crystal know if there is anything you would like to see completed from this area. Also, maps showing proposed hole locations are considered confidential as per SDCL 45-6D-15 so please do not share them outside of the agency.

Thanks!

Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

From: Crystal Hocking <crystal.hocking@respec.com>

Sent: Tuesday, March 19, 2024 12:42 PM

To: Hudson, Roberta <Roberta.Hudson@state.sd.us>

Cc: John Glasscock <cowboyexpjwg@msn.com>; Holm, Eric <Eric.Holm@state.sd.us>; Mike Blady <mikeblady@gmail.com>

Subject: RE: [EXT] Clean Nuclear Energy Exploration Application

Comments received.

We had assumed that a cultural survey would be a permit condition, but we will be reaching out to SHPO regarding what they want to see for next steps.

In the meantime, I also assume that GFP may have some biological survey requirements that may become a permit condition. Because the survey window for nesting raptors (and sometimes plant species) is a short window, and we don't want to miss an opportunity for a field survey this spring, would it be possible for us, or your office, to provide GFP a copy of the application so that they can review and provide recommendations for any field biology surveys?



Crystal M. Hocking, PG PE

RESPEC

605.394.6451



From: Hudson, Roberta <Roberta.Hudson@state.sd.us>

Sent: Tuesday, March 19, 2024 7:38 AM

To: Crystal Hocking <crystal.hocking@respec.com>; Mike Blady <mikeblady@gmail.com>

Cc: John Glasscock <cowboyexpjwg@msn.com>; Holm, Eric <Eric.Holm@state.sd.us>

Subject: RE: Clean Nuclear Energy Exploration Application

Mr. Blady,

I have attached our procedural completeness letter for the Clean Nuclear Energy Corp uranium exploration application. Please address the items within the letter so we can proceed with processing this application.

If you have any questions, please feel free to contact me at (605) 773-4201.

Thank you!

Roberta Hudson, PE

Engineer Manager I

Minerals, Mining, and Superfund Program

From: Crystal Hocking <crystal.hocking@respec.com>

Sent: Friday, March 15, 2024 3:13 PM

To: Hudson, Roberta <Roberta.Hudson@state.sd.us>

Cc: Mike Blady <mikeblady@gmail.com>; John Glasscock <cowboyexpjwg@msn.com>; Holm, Eric <Eric.Holm@state.sd.us>

Subject: RE: [EXT] Clean Nuclear Energy Exploration Application

The copy of the application has been submitted to the Fall River Register of Deeds (see attached).



Crystal M. Hocking, PG PE

RESPEC

605.394.6451



From: Crystal Hocking

Sent: Monday, March 11, 2024 9:53 PM

To: Hudson, Roberta <roberta.hudson@state.sd.us>

Cc: Mike Blady <mikeblady@gmail.com>; John Glasscock <cowboyexpjwg@msn.com>; Holm, Eric <eric.holm@state.sd.us>

Subject: Clean Nuclear Energy Exploration Application

Ms. Hudson,

On behalf of Clean Nuclear Energy Corp, please find the attached cover letter and application package for a proposed exploration program.

We will get a hard copy of the application (including the application fee) in the mail to the DANR as well as provide a copy to the Fall River County Register of Deeds later this week.

Crystal M. Hocking, PE, PG

Project Geologist

RESPEC

3824 Jet Drive

Rapid City, SD 57703

605.394.6451 office

respec.com

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MANDY PEARSON

Senior Wildlife Biologist – Wildlife Diversity & Environmental Review
South Dakota Department of Game, Fish and Parks
Rapid City, South Dakota

WORK EXPERIENCE

2024 – Present	Senior Wildlife Biologist – Wildlife Diversity & Environmental Review South Dakota Game, Fish and Parks Coordinate statewide environmental reviews, including mineral exploration and mining, and manage the wildlife diversity program
2022 – 2024	Resource Biologist South Dakota Game, Fish and Parks Surveyed and managed regional wildlife resources
2022	Private Lands Wildlife Biologist Bird Conservancy of the Rockies Worked with private landowners and other partners to facilitate enrollment in USDA Farm Bill programs and promote bird conservation
2021	Avian Field Technician Western EcoSystems Technology, Inc Surveyed wind turbines for bird and bat mortalities

EDUCATION

December 2022	Master of Science Degree Wildlife and Fisheries Sciences, Wildlife Sciences Emphasis South Dakota State University
December 2017	Bachelor of Science Degree Wildlife and Fisheries Sciences, Wildlife Sciences Emphasis Zoology Major, Wildlife Minor California State Polytechnic University, Humboldt