DOE/EA-2264

FINAL Environmental Assessment

Kemmerer Power Station Unit 1 Preliminary Activities
Kemmerer, Lincoln County, Wyoming

U.S. Department of Energy
Office of Clean Energy Demonstrations

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ACRONYMS AND ABBREVIATIONS

Acronyms	Definition
AADT	Average Annual Daily Traffic
APE	Area of Potential Effects
ARDP	Advanced Reactor Demonstration Program
BCC	Birds of Conservation Concern
BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
BMP	Best Management Practice
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CO2e	Carbon Dioxide Equivalent
CP	Construction Permit
CPA	Construction Permit Application
CR	County Road
DAC	Disadvantaged Community
DOE	U.S. Department of Energy
EA	Environmental Assessment
EI	Energy Island
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERC	Energizing Rural Communities
ESA	Endangered Species Act

GIS	Geographic Information System
GNF-A	Global Nuclear Fuel—Americas, LLC
GPM	Gallons per Minute
HMA	Herd Management Area
HPSA	Health Professional Shortage Area
HRSA	Health Resources and Services Administration
I-80	Interstate 80
IK	Indigenous Knowledge
IPaC	Information for Planning and Consultation
IIJA	Infrastructure Investment and Jobs Act
IR	Isolated Resource
KDW	Kemmerer Decarbonization Work
KTC	Kemmerer Training Center
LCGP	Large Construction General Permit
LCOEM	Lincoln County Office of Emergency Management
LCSD1	Lincoln County School District 1
LCSD2	Lincoln County School District 2
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MGD	Million Gallons Per Day
MHSC	Memorial Hospital of Sweetwater County
MW	Megawatts
MWe	Megawatts Electric
MWt	Megawatt Thermal
NAICS	North American Industrial Classification System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NI	Nuclear Island
NRC	U.S. Nuclear Regulatory Commission
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
PM	Particulate Matter

RFB	Reactor Fabrication Building
ROW	Right-of-Way
RV	Recreational Vehicle
RXB	Reactor Building
SFR	Sodium Fast Reactor
SGCN	Species of Greatest Conservation Need
SPCC	Spill Prevention, Control, and Countermeasure
STR	Smith Travel Research
SuCSD9	Sublette County School District 9
SWPPP	Stormwater Pollution Prevention Plan
TerraPower	TerraPower, LLC
TFF	Sodium Test and Fill Facility
THPO	Tribal Historic Preservation Officer
TVES	Terrestrial Visual Encounter Surveys
TWLTL	Two-Way Left-Turn Lane
UCSD1	Uinta County School District 1
ULT	Ute Ladies'-Tresses
USC	U.S. Code
USCB	U.S. Census Bureau
USFWS	U.S. Fish and Wildlife Service
USO	US SFR Owner
WEAD	Wyoming Economic Analysis Division
WGFD	Wyoming Game and Fish Department
WISC	Wyoming Industrial Siting Council
WLSO	Wyoming Legislative Service Office
WOHS	Wyoming Office of Homeland Security
WISC	Wyoming Industrial Siting Council
WLSO	Wyoming Legislative Service Office
WOHS	Wyoming Office of Homeland Security
WWDC	Wyoming Water Development Commission
WYDEQ	Wyoming Department of Environmental Quality
WYDOT	Wyoming Department of Transportation
WYNDD	Wyoming Natural Diversity Database
WYPDES	Wyoming Pollutant Discharge Elimination System

WY SHPO	Wyoming State Historic Preservation Office

SECTION 1 INTRODUCTION

The *National Environmental Policy Act* (NEPA; 42 U.S. Code [USC] 4321 et seq.), and applicable implementing regulations require that DOE consider the potential environmental impacts of a major federal action. This requirement applies to DOE's decisions about whether to provide federal funding through financial assistance agreements. DOE is using the NEPA process to assist in determining whether to fund preliminary activities for the Kemmerer Power Station Unit 1 (Kemmerer Unit 1) proposed by TerraPower.

This Final EA was published pursuant to Executive Orders and laws in effect at the time it was issued, and DOE made certain changes to the Final EA from the Draft EA to ensure consistency with existing law.

1.1 Background

DOE selected TerraPower, LLC, to demonstrate the Natrium® advanced reactor and energy system in October 2020 as part of the Demonstration Pathway of the advanced reactors demonstration program (ARDP). DOE and TerraPower entered into a cooperative agreement in May 2021 to execute the demonstration project. The Natrium Demonstration Project includes the construction of a Sodium Test and Fill Facility (TFF) (DOE 2024a), a Fuel Fabrication Facility, and Kemmerer Unit 1.

On March 28, 2024, TerraPower, submitted to the U.S. Nuclear Regulatory Commission (NRC), pursuant to 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," a construction permit application (CPA) that proposes to construct a non-light water Natrium reactor for the Kemmerer Unit 1 reactor to be built in Lincoln County, Wyoming. A notice of receipt and availability of the application was published by the NRC in the Federal Register on May 14, 2024, (89 FR 42004). The NRC has accepted and docketed the CPA (89 FR 47997) for review.

A feature of the Natrium advanced reactor's primary design is the decoupling approach to plant design for Kemmerer Unit 1: the Nuclear Island (NI), which contains the reactor and its supporting systems, is designed to function as independently as possible from the Energy Island (EI), which contains the thermal energy storage tanks, steam generator, feedwater system, condenser, turbine, and supporting balance of plant systems. The EI is physically connected to the NI by a salt system that transports heat between the islands and stores excess thermal energy, providing a buffer that allows the two islands to operate independently over short time scales. In addition to operational flexibility, even off-normal events in one system may not directly affect the other.

1.1.1 National Environmental Policy Act Review for TerraPower's Natrium Demonstration Project

NEPA requires federal agencies to assess the environmental impact of federal actions in their decision-making process. Major federal action refers to an activity or decision subject to federal control and responsibility, which includes the approval of specific projects. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities.

DOE must conduct a NEPA review prior to authorizing the expenditure of federal funds. The NRC decision to issue a Construction Permit (CP) and operating license for a domestic nuclear plant would be made pursuant to the *Atomic Energy Act of 1954*, as amended, and the NRC's regulations in Title 10 of the CFR.

In order to ensure that all components of TerraPower's Natrium Demonstration Project, including the TFF, Kemmerer Unit 1, and the Fuel Fabrication Facility, are evaluated under NEPA, DOE and NRC have agreed to conduct evaluation of the Natrium Demonstration Project in NEPA reviews that reflect the obligations of both DOE in its role as funding agency and the NRC in its role as regulator. The Project, for purposes of this environmental assessment (EA), refers to the Proposed Action Alternative. Pursuant to the *Atomic Energy Act of 1954*, as amended, and Title 10 of the CFR, the NRC is responsible for issuance of construction permits and operating licenses for domestic nuclear plants. Therefore, construction and operation of Kemmerer Unit 1 would require authorization from the NRC. Expenditure of federal funds for the construction and operation of Kemmerer Unit 1 would require authorization from DOE. Both DOE and NRC have actions pursuant to NEPA for the construction and operation of Kemmerer Unit 1 as described below.

Action 1 – **TFF:** The TFF is a non-nuclear testing facility that will not result in electric power generation. DOE's proposal to provide federal funding in support of the TFF is a major federal action subject to NEPA review. DOE issued a "Finding of No Significant Impact" on May 16, 2024, based on the findings of the final EA regarding environmental impacts of a proposal that consists of the design and construction of the TFF, which would be used to test components for use in the Natrium plant and future units (DOE 2024a, DOE 2024b). The TFF will also be used to transfer sodium to the Natrium plant for the initial fill. DOE is preparing a supplemental analysis of the potential impacts from a change in the proposed route for the temporary and permanent utilities to the TFF, including electrical and fiber internet. DOE expects to make a decision on the supplemental analysis by the beginning of 2025. The NRC had no jurisdictional role in the construction of the TFF which is a non-nuclear construction project unrelated to the NI or EI.

Action 2 – **Kemmerer Unit 1:** DOE will evaluate the potential impacts to the human environment that would result from authorizing the expenditure of federal funds for preliminary activities, meaning those activities that precede nuclear construction-related activities for Kemmerer Unit 1. Activities would include site preparation: completing non-structural backfill, adding trailers, constructing multiple buildings, installing underground services, laying foundations, installing stormwater management ponds, locating portable bathroom facilities, establishing temporary power, and constructing temporary parking areas. DOE will be the lead agency completing the NEPA review for Kemmerer Unit 1 preliminary activities.

Action 3 – **Kemmerer Unit 1:** NRC will evaluate construction and licensing activities in an Environmental Impact Statement (EIS) (refer to 89 FR 49917). DOE is a cooperating agency on the EIS. Pursuant to its regulatory authorities, NRC will evaluate the potential impacts to the human environment associated with construction and operation of Kemmerer Unit 1 in an EIS. NRC is the lead federal agency and has issued a Notice of Intent to conduct the scoping process and preparation of the EIS (89 FR 49917). A public scoping meeting was held by the NRC on July 16, 2024, in Kemmerer, Wyoming. To the extent practicable, NRC's EIS will incorporate analysis from DOE's NEPA review for the preliminary activities.

Action 4 – **Natrium Fuel Fabrication Facility:** The Natrium Fuel Fabrication Facility is a proposed expansion to the Global Nuclear Fuel—Americas, LLC, (GNF-A) Wilmington, North Carolina, facility operating under NRC license No. SNM-1097. NRC prepared an EA for the renewal of SNM-1097 in May 2009 (NRC 2009). Pursuant to its authorities NRC and DOE would conduct a NEPA review relating to the fuel fabrication as part of its licensing process and financial assistance.

DOE prepared Appendix A, *TerraPower Natrium Project Programmatic Analysis*, for the TFF EA that is incorporated by reference into this EA. Appendix A discloses programmatic decisions that are supported by the TFF EA and this EA and the upcoming, separate decisions for the Action 3 and 4 activities.

1.2 Purpose and Need for Action

The purpose and need for agency action is to comply with the DOE's statutory mandates in the *Fiscal Year 2020 Further Consolidated Appropriations Act* (H.R. 1685) and the *Infrastructure Investment and Jobs Act* [1] (H.R. 3682) (IIJA) to select and fund the demonstration of advanced reactors through cost-shared partnerships (cooperative agreements) with U.S. industry. The IIJA appropriates funding for the ARDP through 2027.

Through the ARDP, DOE competitively selected and has provided initial funding in support of two advanced reactor demonstration projects that would support the design, licensing, construction, and operation of first-of-a-kind advanced reactor designs as well as the design, licensing, construction, and operation of fuel fabrication facilities. The TerraPower Natrium Demonstration Project is one of the two advanced reactor demonstration projects selected by DOE.

DOE's purpose is to select ARDP projects that:

- Advance the deployment at scale of the next generation of reactors;
- Provide consistency with the goals and timeline of the IIJA and DOE's mission;
- Are safe and affordable to design, construct, and operate; and
- Support improvements in safety, security, economics, and environmental impacts through these first-of-a-kind designs over current nuclear power plant designs.

The need is to respond to TerraPower's request for financial assistance through the cost-shared partnership to complete preliminary activities for Kemmerer Unit 1 in Lincoln County, Wyoming, which would further the design and construction of TerraPower's Natrium reactor (and associated technologies).

1.3 Scoping, Public Involvement and Issues

NEPA requirements ensure that information is made available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of federal agency decisions will be enhanced if federal agencies provide information to the public, including stakeholders and tribal nations, and involve the public and these entities in the planning process. Stakeholders include federal, state, and local governments, interested organizations, and individuals within and near the Project.

As part of the NEPA process, DOE will coordinate with relevant public agencies for reviews and comments including, but not limited to, the NRC and the following offices of the State of Wyoming: Wyoming Department of Environmental Quality (WYDEQ), Wyoming Department of Transportation (WYDOT), Wyoming State Historic Preservation Office (WY SHPO).

A notice of scoping (Scoping Notice) was issued on July 19, 2024, to request public input on the scope of the draft EA for the preliminary activities. The Scoping Notice requested that all comments be provided on or before August 15, 2024.

The Scoping Notice was published on DOE's Office of NEPA Policy and Compliance website and in the Kemmerer Gazette and sent to tribes and federal, state, and local agencies. A letter with a summary of the Scoping Notice and a link to additional online information was mailed and distributed by email to individuals and organizations who had expressed an interest in the Project.

Seven comments were received from private citizens and two state agencies (WYDOT and WYDEQ). The comments identified a need by the applicant to comply with all federal and state permitting

requirements and requested the following issues be analyzed: traffic, stormwater management, water consumption, waste disposal, and wetlands. Commenters also requested a discussion of any proposed mitigation measures.

DOE released the draft EA for public comment on October 21, 2024, through November 20, 2024. DOE held an in-person public meeting on October 29, 2024, in Kemmerer, Wyoming. DOE received five public comments and have responded to substantive comments in Appendix C and made corresponding edits to the Final EA where necessary.

1.3.1 Tribal Consultation

On July 19 and October 21, 2024, DOE sent letters to the following 30 tribes describing the Project, inviting consultation, seeking input, and providing the draft EA for the Project:

- Apache Tribe of Oklahoma
- Blackfeet Nation
- Cheyenne and Arapaho Tribes
- Cheyenne River Sioux Tribe
- Chippewa Cree Tribe
- Comanche Nation
- Confederated Tribes of the Goshute Reservation
- Crow Creek Sioux Tribe
- Crow Tribe of Indians
- Eastern Shoshone Tribe
- Fort Belknap Indian Community
- Fort Peck Assiniboine and Sioux Tribes
- Lower Brule Sioux Tribe
- Mandan, Hidatsa, and Arikara Nation
- Nez Perce Tribe
- Northern Arapaho Tribe
- Northern Cheyenne Tribe
- Northwestern Band of the Shoshone Nation
- Oglala Sioux Tribe
- Omaha Tribe of Nebraska
- Ponca Tribe of Nebraska
- Rosebud Sioux Tribe
- Shoshone-Bannock Tribes of Fort Hall
- Sisseton Wahpeton Oyate
- Skull Valley Band of Goshute Indians
- Spirit Lake Nation
- Standing Rock Sioux Tribe
- Ute Indian Tribe

- Winnebago Tribe of Nebraska
- Yankton Sioux Tribe

Four tribes provided comments during the scoping period from July 19 to August 15, 2024. DOE did not receive any comments from tribes on the draft EA review period from October 21 to November 20, 2024. In the weeks after sending the letters, DOE followed up with phone calls inviting all tribes to engage in consultation. DOE will continue to engage tribes through the draft and final EA and the *National Historic Preservation Act* (NHPA) Section 106 consultation process and incorporate their feedback into DOE reviews and decisions.

SECTION 2 PROPOSED ACTION, NO-ACTION ALTERNATIVE, AND CUMULATIVE ACTIVITIES

2.1 Proposed Action

DOE is proposing to authorize the expenditure of federal funding by TerraPower to conduct preliminary activities for Kemmerer Unit 1. Kemmerer Unit 1 is based on TerraPower's Natrium Reactor Plant, an 840 MWt pool-type sodium-cooled, fast neutron spectrum reactor that contains a molten salt energy storage system, which enables the plant to vary its supply of electrical energy to the grid, up to 500 MWe net, while maintaining constant reactor power.

Under the Proposed Action, TerraPower would prepare the site and build supporting infrastructure to support the potential future construction and operation of Kemmerer Unit 1. The activities are expected to begin in March 2025. The Proposed Action addresses the preliminary activities that would occur before issuance of the Construction Permit (CP), which would occur following the completion of the NRC EIS and issuance of a Record of Decision. The duration of the preliminary activities considered in this analysis is approximately 18 months (March 2025 through September 2026). The activities under the Proposed Action would at no time involve radioactive material or nuclear safety-related systems, and no safety-related structures would be built. The Proposed Action refers to the specific preliminary activities for which DOE is considering providing financial assistance. The Project, or the Project area, refers to the Proposed Action preliminary activities within the 290 acres shown in Figure 2.1-1. The larger, Kemmerer Unit 1 facility (or Action 3) is referred to as the NRC EIS or Kemmerer Unit 1 throughout the EA.

Figure 2.1-1 shows the Project location and select site features. The Project area is shown in pink and labeled as the area of disturbance on the figure. Kemmerer Unit 1 would be built on land owned by US SFR Owner (USO) (denoted as the Kemmerer Unit 1 site in Figure 2.1-1) comprising about 290 acres in a portion of Sections 19 and 20, Township 20 North, Range 116 West, P.M, Lincoln County, Wyoming, near Kemmerer. The site would be accessed from U.S. Highway 189 (US-189).

Preliminary activities would include, but are not limited to: site preparation, non-structural backfill, set up of trailers, construction of multiple buildings, installation of underground services, laying foundations, installation of stormwater management ponds, installing portable bathroom facilities, establishing temporary power for Kemmerer Unit 1, and establishing temporary parking areas.

There would be no permanent power, water, or sewer connections for the early works of Kemmerer Unit 1 construction (prior to September 2026). Electrical power for the Kemmerer Training Center (KTC) could come from one of the existing 25 kV power poles on the east side of US 189 near the site entrance. Permanent power, water, and sewer connections for Kemmerer Unit 1 would be evaluated in the NRC's EIS.

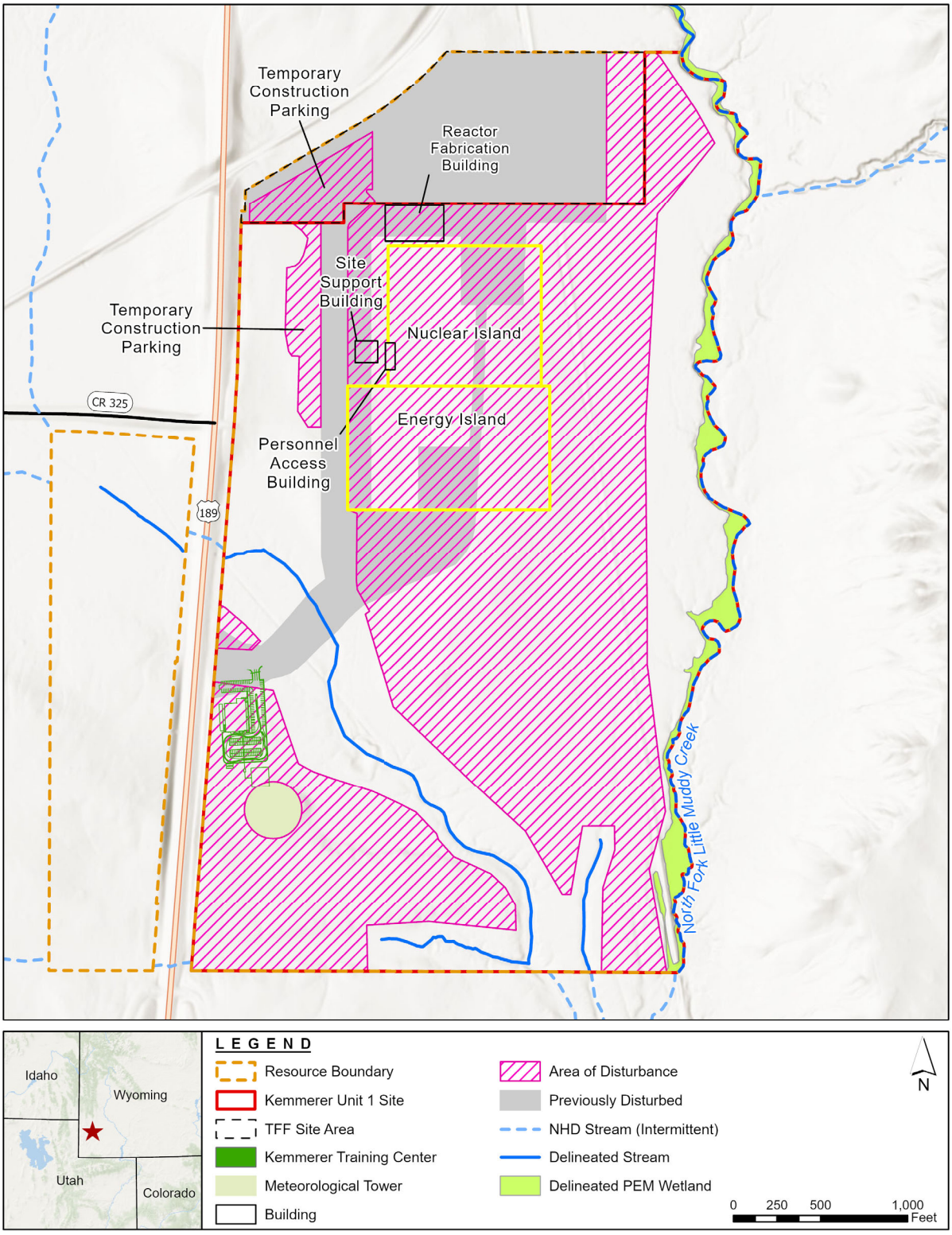

Figure 2.1-1 Location of the Project

The anticipated preliminary activities sequence would include:

- Earthworks – Site Preparation:
  - Survey the site and perform benchmarking and installation of silt fence and erosion controls to protect surrounding wetlands and waterways from sediment runoff.
  - Clear and grub.
  - Install temporary dewatering system.
  - Excavate and backfill.
- Other Activities
  - Install stormwater ponds, including the excavation of pond areas, and stormwater pond berms.
  - Install infall and outfall structures and culverts.
  - Install site underground duct banks and piping in all areas coinciding with backfill activities. This includes the excavation or backfill, depending on the area, to the bottom of the electrical trench. Installation of electrical trenches, underground piping, and stormwater management systems (pipe and catch basins) would also occur (TerraPower 2024, Section 3.3.1.1 and Section 3.3.2.1).
  - Install formwork, rebar, embeds, and place concrete. Structural steel would be installed for the following buildings within the EI:
    - Turbine Facility Building
    - Steam Generator Building
    - Water Treatment Building
    - Transformer Area
    - Cooling Tower
    - Fire Water Pumphouse
    - Switchyard Building
- Install circulating water pipe, which includes the removal of earth and rock to the bottom of design elevation for the Turbine Facility Building. Installation of sand bedding for areas with circulating water pipes and installation of pipes would occur.
- Install formwork, rebar, embeds, and place concrete for fire water, demineralized water, and condensate make-up tank foundations.
- Establish limited parking areas.
- Excavate foundations and install base slabs for the concrete batch plant.
- Excavate to the base of the Cooling Tower forebay at the cooling tower's inlet after the circulating water pipe is finished. Installation of formwork, rebar, embeds and placement of concrete would occur.
- Excavate and backfill for electrical switchgear foundations, including installation of formwork, rebar, embeds, and concrete placement within the EI.
- Excavate within the NI, not to include structural backfill.

The site earthworks would include earth-moving equipment possibly including, but not limited to, dump trucks, excavators, and backhoes.

2.1.1 Earthworks

Earthworks would be limited to site clearing and grubbing, then installation of the backfill warehouse and undergrounds. The Project area has limited vegetation cover and plants, and plant communities on the site are typical of sagebrush-shrub habitats in the region. For clearing and grubbing activities, stripping of the top layer of the site would occur, including laydown areas. Topsoil and organic material would be removed and stored in one of the two stockpile areas North and South of the Project area. Excavated soil that is suitable for backfill would be used from the stockpile area. Stripping would include up to 12 inches of soil according to site topography. Excavated material would be used as common fill. Excavated material not suitable for fill would be disposed of in accordance with regulatory requirements. Where there is sufficient elevation difference, storm water pipe and catch basins would be installed for removal and collection of surface water.

2.1.2 Dewatering

A temporary dewatering system would be established to maintain dry working conditions for preliminary activities, specifically reactor building excavation and other facilities being constructed below the water table. Temporary excavation and dewatering activities are planned to start in Q1 2025. The maximum estimated dewatering flow is 50 gallons per minute (gpm), which would be approximately 120 acre-feet over the course of 18 months. However, it is expected that the actual dewatering rate would be less than this value as construction scheduling is planned to sequence the necessary excavations. Groundwater from dewatering activities would be used beneficially for dust suppression, soil compaction, fire suppression, and equipment washing, as available; the volume to be reused on site has not been determined yet.

2.1.3 Excavation and Backfill

Excavation and backfill activities would include importation and placement of common and structural backfill. The specific backfill or backfill source is unknown at this time, but the material is expected to be a well-graded sand and gravel containing no rocks or stones larger than 2 inches. Then in parallel and follow-on, there would be general excavation for the site. Areas would be taken to a common sub-grade elevation for further excavations for specific infrastructure, such as foundations, duct banks, and underground piping areas (which would be left open), with temporary drainage to accommodate installation of this infrastructure. Backfill would occur as installation completes. Individual areas such as foundations and piping would be backfilled directly after completion. Backfill would only occur in areas not defined as construction by 10 CFR 51.4 (NRC 2022b).

Minimal excavation, approximately 36” below grade, would occur to deliver temporary power cables to their final location. Trailer setup would include auger type anchors and a shallow foundation. Rocky Mountain Power would perform offsite facility upgrades at the Kemmerer substation and expects to install two conduits in the same bore under US Highway 189 in 2025. Two sets of cables would be installed in two separate conduits, and both would have the ampacity to carry and meet the load demand for the TFF facility permanent power (7MW) and Kemmerer Unit 1 construction power demand (10MW) in 2026. The power would be installed from existing poles on the west side of Highway 189 to the TFF site through underground conduits and terminate at two medium voltage switches. Distribution of power to Kemmerer Unit 1 for construction power demands would occur on land previously disturbed for the construction of the TFF and the footprint of the Proposed Action.

General site activities would include clearing and grubbing for approximately 150,000 cubic yards of material and earthworks (cut and fill) for approximately 610,000 cubic yards of total backfill. A heat map of the site earthworks is shown in Figure 2.1-2. The estimated soil quantities to be removed or filled

during earthwork activities are identified in Table 2.1-1. The source of the qualified fill has not yet been identified. Storm drainage, paving, site lighting, and fencing would be required components of preliminary activities.

During preliminary activities, storm drainage would be captured in a temporary groundwater/stormwater settling pond east on the site and then directed to existing drainageways. The temporary east settling pond would have a capacity of 5 acre-feet, though the full capacity is not anticipated to be used. It is anticipated that, during a 2-year 24-hour storm event, the peak discharge would be within the range of approximately 14-26 cubic feet per second. At the principal spillway level, the design capacity of all basins can fully contain the run-off volume of a 100-year 24-hour storm event.

2.1.3.1 Spoils Areas

Spoils areas would be established to manage soils and debris cleared, grubbed, or excavated during site preparation activities. The total area for spoils would be approximately 1.5 acres. Drainage from the spoils piles would be controlled through measures such as berms, riprap, sedimentation filters, and detention ponds in compliance with the Storm Water Pollution Prevention Plan (SWPPP), which has been prepared in accordance with the requirements of 40 CFR part 112. The Project would use qualified spoils for common fill on site. Storage for imported fill would be located near the spoil piles at the south end of the site.

2.1.3.2 Laydown Areas

Laydown areas would be set up to support fabrication and installation activities. Three laydown areas are proposed that occupy a total of 114 acres to the north, east, and southeast on the site.

2.1.3.3 Description of Requirements for Common Fill

Excess on-site soil resulting from site grading would be used for fill material to level areas designated for temporary parking lots and roadways, such as the main access road or heavy haul path. The fill material is not planned to be used for structural fill and would not be tested for geotechnical properties. The grading activities at the site would result in the net gain of soil. The fill material is expected to be suitable for site grading and should consist of unconsolidated sand, silt, clay with minor amounts of gravel and organic material. Excess fill material would be stockpiled onsite using standard erosion and sediment control procedures.

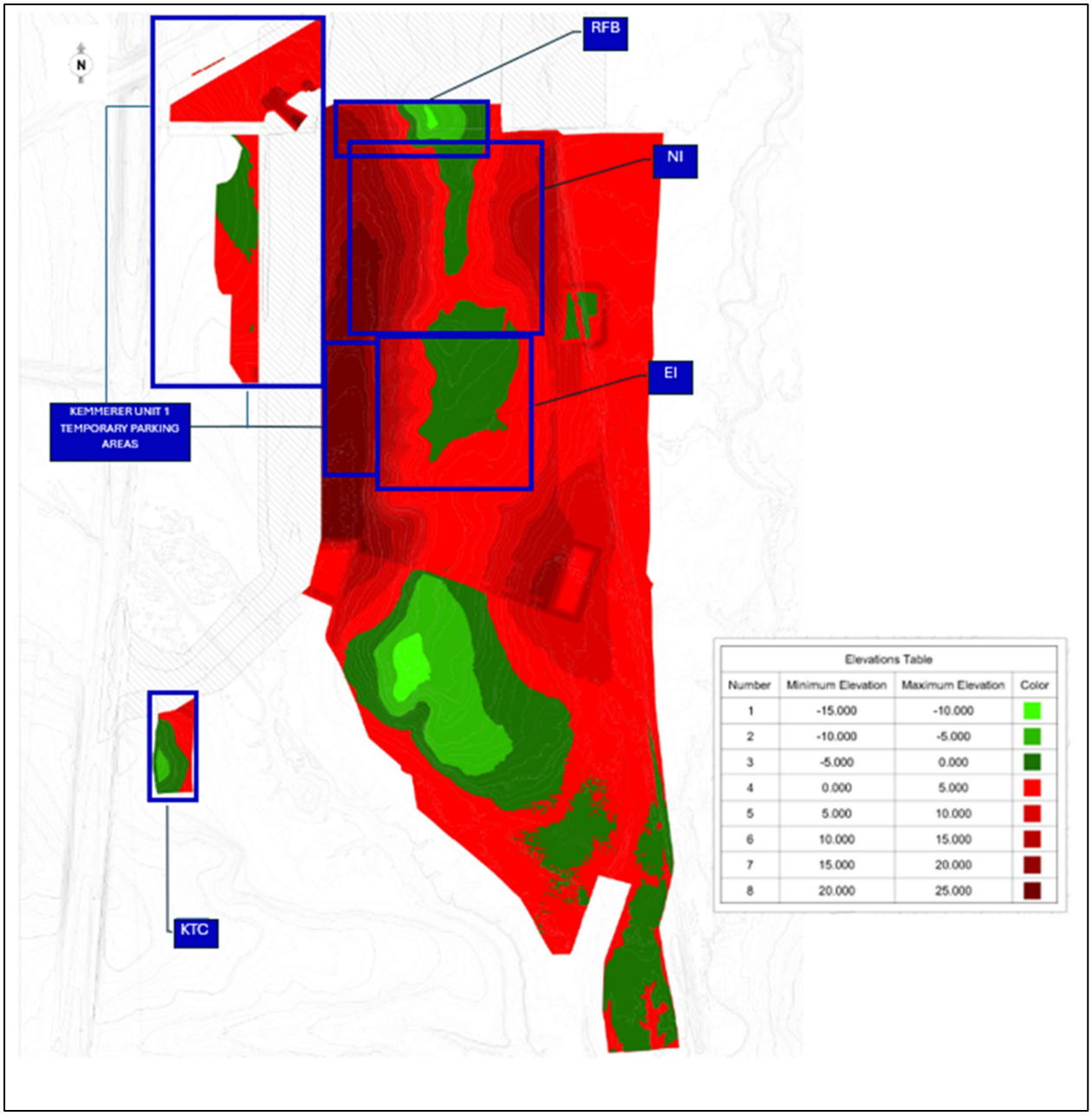

Figure 2.1-2 Heat Map for Earthwork

Table 2.1-1 Estimated Soil Removal and Fill

Approximate Earthwork Quantity (cubic yards) for Preliminary Activities			
Location	**Total Clearing and grubbing (cubic yards)**	**Total Mass Excavation (cubic yards)**	**Total Backfill (Non-Structural) (cubic yards)**
Nuclear Island	30,000	160,000	250,000
Energy Island	33,000	8,000	280,000
Misc. Yard	90,000	65,000	72,000
Totals	**150,000**	**240,000**	**610,000**

2.1.4 Supporting Infrastructure

Site infrastructure includes buildings, temporary utilities, plant roads and parking, walkways, and storm drainage. There would be no water or sewer hook-up within the first 18 months of construction.

Multiple buildings would be constructed as part of the Proposed Action: the Reactor Fabrication Building (RFB) located just south of the TFF, the KTC located south of the site entrance, and the site support and personnel access buildings located west of the NI. A rendering of the RFB and KTC structures is shown in Figure 2.1-3. Locations of the EI, NI, and temporary or permanent parking features are also shown as well as the nearby TFF.

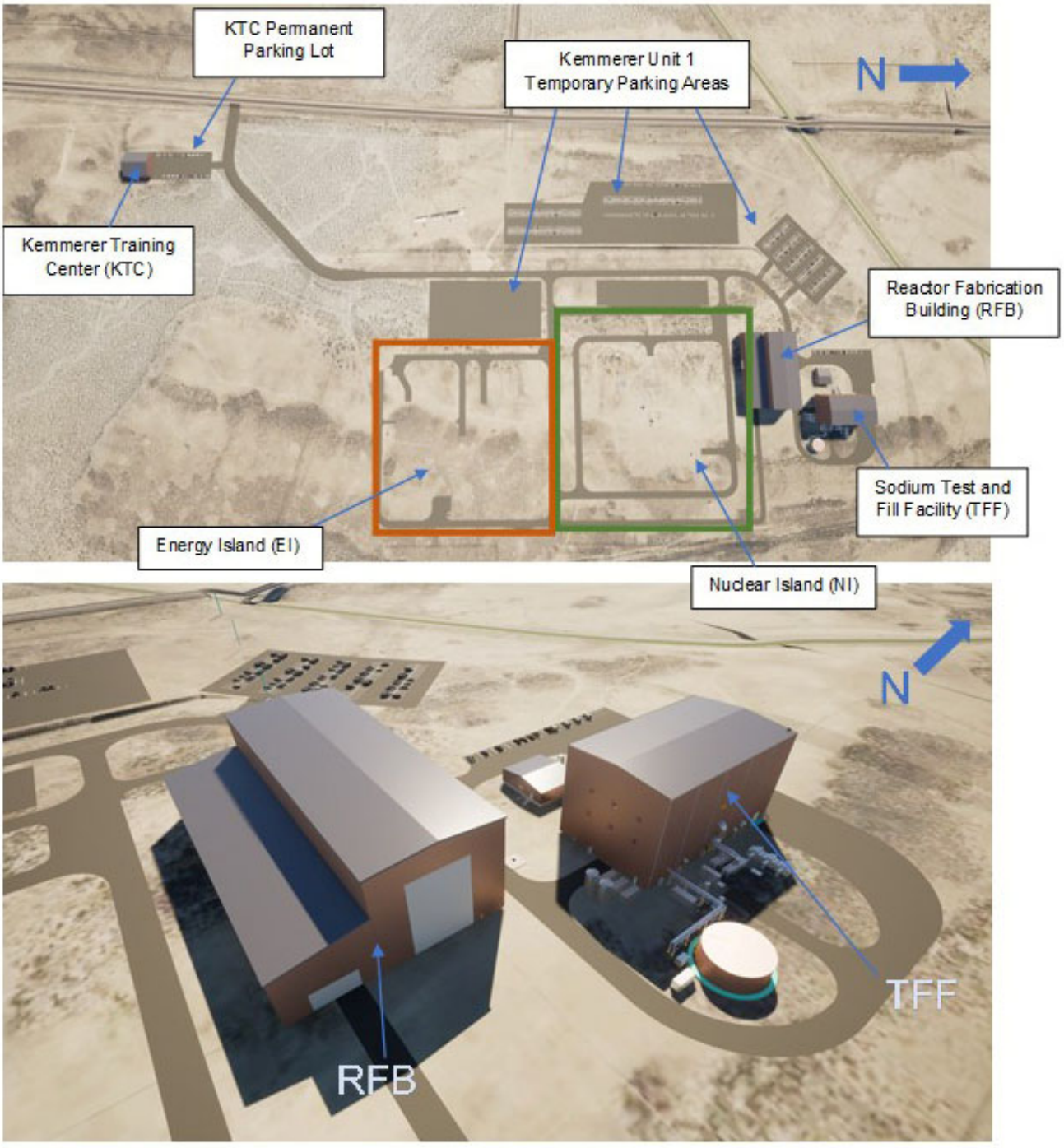

Figure 2.1-3 RFB and KTC Rendering

2.1.4.1 Reactor Fabrication Building

The RFB serves as a warehouse to provide on-site assembly facilities for the reactor vessel and the guard vessel prior to the assembly being transported to the Reactor Building.[1] The RFB would be south of the TFF and north of the NI of Kemmerer Unit 1. The RFB is proposed to be a 66,000 square feet, single story building approximately 330 feet x 200 feet with a height of approximately 125 feet. The RFB would be a prefabricated metal building with two bays, a high and low bay. In addition to the building's required personnel doors, the high bay would also have overhead coiled doors suitable for receipt of the reactor vessel components and equipment and the egress of the completed reactor vessel assembly. The high bay would also have an overhead bridge crane. Since the primary use of the building is for assembly, it would not have any permanent utilities or restroom facilities but would be supplied with temporary construction power and other temporary construction services as needed during reactor assembly activities. The RFB structure would remain in place during operations.

2.1.4.2 Kemmerer Training Center

The KTC is the primary location of training for nuclear personnel of Kemmerer Unit 1 and initial training for subsequent units in the Natrium Reactor Plant fleet. The KTC would house the simulator, which is a mockup of the Main Control Room, where control room operators would practice operating the plant and perform the simulator portion of the initial license and requalification exams.

The KTC would be located on approximately 2 acres south of the site entrance road. The KTC building is proposed as an approximately 37,000 square feet, two story structure with a 142-spot parking lot. The KTC would also contain the necessary space for licensed operators, non-licensed operators, electricians, mechanics, instrumentation and control technicians, stations sciences personnel (Radiation Protection and Chemistry), and site engineering personnel to be trained in a lab and classroom environment. The building would also provide space for instructors and training administrative staff to perform their day-to-day work. To facilitate technical training, four labs would be required: one each for electricians, mechanics, instrumentation and control technicians, and station sciences personnel.

Electrical power would come from the meteorological tower transformer. During initial use of the KTC, water would be trucked on to the site, and sanitary facilities would be self-contained. Sometime after initial operation, water and sewer lines would be provided to the KTC via tie-ins with Kemmerer Unit 1. Construction is estimated to begin in March 2025 and take 12 months and require 75 to 100 workers. Once complete, the Training Center is expected to have a workforce of 70 personnel.

2.1.4.3 Site Support and Personnel Access Buildings

The Site Support Building and Personnel Access Building would be located outside of the NI and EI on the west side of the site (Figure 2.1-1). These buildings are administrative and services buildings with security occupying the Personnel Access Building.

2.1.4.4 Buildings in the Energy Island

Dependent on the Project timeline, preliminary activities would include erection of the buildings in the EI. These activities would consist of excavation and backfill of the foundations, installation of mud mats, formwork, rebar and embeds, and placement of concrete. Embedded pipes and electrical conduit and grounding would be installed during foundation construction. Steel and superstructure would be installed

[1] A guard vessel is located around the reactor vessel. The guard vessel serves as a support and provides a uniform temperature gradient between the guard vessel and cavity wall.

after completion of the foundations. Expected quantities of earthworks from EI Excavation are provided in Table 2.1-1. The EI excavation is anticipated to take place from April 2025 to April 2026.

2.1.4.5 Nuclear Island Excavation

Preliminary activities would occur within the NI, including excavation and drilling of the Reactor Building (RXB) shaft. RXB, Reactor Auxiliary Building, Fuel Handling Building, and control building excavation is anticipated to take place from February 2026 to June 2026. No structural fill would be installed in the NI. The RXB shaft would be the deepest excavation in the NI space, with the RXB shaft depth reaching approximately 119 ft.

If drilling of the RXB shaft were to occur, temporary supports of excavation restraints would be used within the RXB shaft and removed prior to building construction. The temporary excavation support includes shotcrete, tensioned bolts, and dowels. These temporary supports would be built from bottom depth until reaching ground level; they would be used to provide support for the excavation until the period in which further RXB construction would be permitted. They would be removed concurrent to the construction of the permanent concrete walls.

2.1.5 Shipments Information

2.1.5.1 Building Materials and Earthworks

Truck shipments of building materials and earthworks are projected to be 95 shipments per working day over the duration of the Proposed Action.

2.1.5.2 Water Uses/Needs for Building Activities

Supplemental water from the Naughton Power Plant Raw Water Settling Basin may be used for dust suppression. Water from dewatering activities may be repurposed for beneficial uses such as dust suppression, but the anticipated quantity would not be enough to offset the need for outside sourcing. Drinking water would be sourced from a combination of bottled water and on-site water purification trailers. Potable water would be taken from the local municipal supply and held in storage tanks to be treated by the on-site trailers. Waste water from bathroom trailers and portable toilets would be emptied and disposed of offsite or can be treated onsite using treatment trailers for dust suppression or non-potable use. The KTC would require water, storm and sewer access separate from the other preliminary activities. The total estimated water use and needs for preliminary activities is 107,136 gallons per week as tabulated in Table 2.1-2.

Table 2.1-2 Estimated Water Use/Needs for Preliminary Activities

Activity	Gallons Per Week	Gallons Total (18-month)
Dust Suppression	75,000	5,762,250
Concrete Batch Plant	---	3,040,000*
Drinking Water	8,136	699,696
Flushing Water Tanks	18,000	1,548,000
Misc. Water for Trucks/Form Wash, etc.	6,000	516,000
Total	107,136	11,565,946

*Based on preliminary activity cubic yards of concrete

2.1.5.3 Wastewater

Wastewater generated onsite would be held in holding tanks to be hauled offsite to an appropriate treatment facility (Kemmerer-Diamondville Water and Wastewater Joint Powers Board), approximately 7 miles northeast of the site. Sanitary waste generated is expected to be similar to the drinking water quantity, and portable toilets are expected to be emptied several times per week.

2.1.5.4 General Non-Hazardous Wastes

It is anticipated that three, 40-yard dumpsters for general trash per week, on average, would be generated onsite during preliminary activities. Three trucks are estimated to haul the trash each week, over the 18-month period. Various types of non-hazardous waste include trash, metal, copper, wood, and paper. The total estimated non-hazardous waste over an 18-month period is 23,418 cubic yards as shown in Table 2.1-3.

Table 2.1-3 Estimated Cumulative Non-Hazardous Waste for Preliminary Activities

Type of Waste	Dumpsters per Month	Dumpster Capacity (cubic yards)	Waste Generated per Month (cubic yards)	Number of Months in Use	Total Waste Generated by Type
Trash	13	40	520	18	9,360
Metal	8.67	40	347	18	6,246
Copper	2.17	40	87	18	1,566
Wood/Paper	8.67	40	347	18	6,246
				Total	23,418

2.1.5.5 Universal Wastes and Hazardous Wastes

It is anticipated that minimal hazardous wastes would be generated during Project preliminary activities. Potential generation of hazardous wastes could include waste paints, solvents, and lubricants. Universal wastes (such as lamps, batteries, pesticides, and aerosol cans) generated onsite would be managed using an approved vendor in accordance with local rules and regulations. The quantities of such wastes are expected to be well below regulated thresholds under the *Resource Conservation and Recovery Act*. If needed, the USO's contractor(s) would designate and use areas for the transfer and limited temporary storage of hazardous materials and special wastes. These sites would be properly labeled and appropriately controlled.

Any hazardous wastes generated during construction would be properly characterized and managed by the USO and their contractor(s). The handling of hazardous materials and waste would be performed in accordance with all federal, state, and local laws and regulations. The nearest facility accepting hazardous waste is the Casper Special Waste Facility Solid Waste District.

All activities would be performed in accordance with local, state, and federal regulations and permits and be completed with Best Management Practices (BMPs) in place to ensure proper environmental protection.

2.2 Alternatives Considered but Eliminated from Further Analysis

2.2.1 Alternate Sites

Before TerraPower applied for this award, TerraPower considered the following three sites as candidate sites: 1.) Naughton 19/20 (now Kemmerer Unit 1), Naughton 12, and Jim Bridger 22. These sites were located at or near adjacent parcels to a retiring coal plant.

The Naughton 12 site was considered as it met business objectives, ARDP schedule, and is a previously disturbed area; however, it was eliminated from further study in part due to potential for site/parcel expandability, significant imported fill needs prior to would-be-proposed activities, and potential adjacency to mining activity. The Jim Bridger 22 site was considered as it met business objectives and land availability but was eliminated from further study in part due to significant earthwork needs for constructability as well as challenges in access to the site. The Naughton 19/20 (now Kemmerer Unit 1) site was considered as it met business objectives, land availability, and ARDP schedule though its own challenges were identified such as land acquisition needs for a water and transmission pipeline.

2.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project preliminary activities, as outlined in the Proposed Action, would not proceed if DOE does not authorize the expenditure of federal funds. Any potential beneficial or adverse effects to the physical, natural, or socioeconomic resources would not be realized.

2.4 Past, Present and Reasonably Foreseeable Actions

2.4.1 DOE's analysis in this EA considers the cumulative effects of the proposed action when added to the effects of other past, present, and reasonably foreseeable actions. Potential sources of cumulative impacts include:

WYDOT Wildlife Crossing Along US-189: WYDOT was awarded a grant by the DOT Federal Highway Administration for the US-189 Habitat Connectivity Corridor Expansion project. which would consist of several underpasses, high barrier wildlife fencing, and an overpass across US-189. These would be spread over around a 30-mile stretch of US-189 from the US-189/Interstate 80 (I-80) junction north on US-189 to just north of the TFF property (WYDOT 2023). Construction is expected to begin in 2025 (WYDOT 2024a). The wildlife crossing would help to minimize the number of wildlife vehicle collisions along the highway as increased development in the Project area would likely increase traffic along US-189 in the coming years.

Naughton Power Plant Natural Gas Conversions: PacificCorp (Rocky Mountain Power) would convert Naughton Power Plant Units 1 and 2 to natural gas in 2026. The three Naughton Power Plant units would continue to operate through 2036 (PacifiCorp 2024). Water from the Plant flows into the North Fork Little Muddy Creek, which is located within the Project area.

Work Completed on the Existing Access Road: In late 2021, TerraPower placed geotextile fabric and gravel within the boundaries of a National Register eligible historic property. TerraPower will be removing this previous work and performing additional cultural resource testing under Section 106 of the *National Historic Preservation Act*.

TerraPower Kemmerer Unit 1: TerraPower would construct the Kemmerer Unit 1 Natrium sodium cooled fast reactor (345 MWe) adjacent to the TFF. The NRC would prepare an environmental impact statement that considers the impacts from construction and operation of Kemmerer Unit 1. NRC issued a Notice of Intent in June 2024 in the Federal Register (Docket No. 50-0613; NRC-2024-0078). DOE is a cooperating agency. DOE's NEPA reviews, including the Test and Fill Facility EA (DOE/EA-2217) and the Preliminary Activities EA (DOE/EA-2264), will be incorporated by reference into NRC's EIS.

Sodium Test and Fill Facility: This non-nuclear testing facility would be located adjacent to Kemmerer Unit 1. The DOE completed an EA and reached a "Finding of No Significant Impact" for the TFF in May 2024 (DOE 2024a, DOE 2024b). Construction activities for the TFF began in 2024. DOE's NEPA reviews, including the Test and Fill Facility EA (DOE/EA-2217) and the Preliminary Activities EA (DOE/EA-2264) will be incorporated by reference into NRC's EIS.

DOE Energizing Rural Communities (ERC) Prize for Kemmerer Wastewater Treatment Facility: The Team Sustaining Productive Utilization of Resources was selected for prize funding to assist with identifying and studying issues posed by aging infrastructure to the sewer systems in the communities of Kemmerer and Diamondville from an increase in clean energy projects in the region driving an influx of workers.

Project West: Project West is a planned facility in Sweetwater County composed of two primary components: a soda ash processing facility, the West Soda Plant, located near Granger, Wyoming, and a Solution Mining Area, which is located 15 miles southeast of the Plant (West Soda LLC 2024).

Dry Creek Trona Mine: Pacific Soda, LLC, proposes to construct mining facilities near Granger in Sweetwater County and employ solution mining technologies for mining trona beds 2,300 feet below the surface and processing that trona for market (Pacific Soda 2024).

Kanata Kemmerer Decarbonization Work: The Kemmerer Decarbonization Work (KDW) would be located at the Kemmerer Mine site and would repurpose feedstock of the existing Naughton generating station. KDW plans to supply net-zero ammonia to serve agriculture and energy needs.

TriSight: TriSight would produce fertilizer and beauty products produced from coal at Kemmerer Mine. They plan to purchase up to 1 million tons per year from Kemmerer Mine to produce their products.

Uinta Wind: Uinta Wind would construct up to 35 wind turbines capable of generating up to 120 megawatts (MW) in northwest Uinta County. This project is currently going through permitting.

Gateway West Transmission Line Project: PacificCorp would be constructing the Gateway West Transmission Line project. Segment D would run 488 miles from Glenrock, Wyoming, to Downey, Idaho. Segment D3 would construct 230 kV and 500 kV electric transmission traversing Sweetwater County, north of Green River and Rock Springs, and Lincoln County, north of Kemmerer, Wyoming. It is anticipated to be placed in service in 2028.

ExxonMobil LaBarge Carbon Capture Facility: ExxonMobil is proposing an expansion at its LaBarge, Wyoming, carbon capture and sequestration project at the Shute Creek Facility. The expansion would capture up to 1.2 million metric tons of CO_2 in addition to the 6-7 million metric tons of CO_2 that is currently captured at the facility annually.

2.5 Permitting and Authorization Summary

A list of permits anticipated for the Project (the Proposed Action) is provided in Table 2.5-1.

Table 2.5-1 Permits and Authorizations

Permit	Agency	Project Actions	Description
Wyoming Pollutant Discharge Elimination System (WYPDES) Large Construction General Permit (LCGP)	WYDEQ	Construction	This LCGP covers stormwater discharges from construction activities that disturb five or more acres.
US Fish and Wildlife Service	USFWS Region 6, Wyoming Ecological Services	Construction and Operation	Consultation with the U.S. Fish and Wildlife Service to ensure actions will not jeopardize the continued existence of any listed species or adversely modify designated critical habitat.
General Air Permit	WYDEQ	Construction	Wyoming Air Quality Standards and Regulations Chapter 6, Section 2(a)(i): "Any person who plans to construct any new facility or source, modify any existing facility or source, or to engage in the use of which may cause the issuance of or an increase in the issuance of air contaminants into the air of this state shall obtain a construction permit from the State of Wyoming, Department of Environmental Quality before any actual work is begun on the facility."
Land Use Application/ Zoning and Development Permit	Lincoln County	Construction and Operation	No premises shall be used, or building, or structure constructed within any zoning district, as a conditional use until the owner has obtained a conditional use permit from the Board of County Commissioners.
Permit to Appropriate Ground Water	State Engineer's Office	Construction	Permit required for any beneficial use (including dust suppression) of any underground water in the state of Wyoming.
Industrial Siting Permit	WYDEQ	Construction	Permit to be obtained from Industrial Siting Council to assess socio-economic and environmental impacts for companies planning major industrial developments before construction commences.

Permit	Agency	Project Actions	Description
Construction Spill Prevention, Control, and Countermeasure (SPCC) Plan	Environmental Protection Agency (EPA)	Construction and Operation	Requires facility to develop and implement plans to prevent and respond to oil spills.
Surface Water Permit 3-A	State Engineer's Office	Construction and Operation	Reservoir Special Application for temporary groundwater/stormwater settling pond.
Wyoming Pollutant Discharge Elimination System General Permit	WYDEQ	Construction	Temporary Discharges Involving Construction Activities General Permits. A permit for NI Excavation (12 months) and a permit for Reactor Shaft Excavation (6 months).
Road Use Agreement	WYDOT	Construction	Agreement to mitigate road damage/geometric modifications caused by hauling activities related to the Project.

2.6 Applicant Committed Measures

TerraPower has proposed voluntary measures to avoid or minimize potential impacts that were identified during the development of the Project, the Proposed Action, and preparation of the EA. These commitments, Project design decisions, and any additional measures identified through permitting or Memoranda of Understanding (collectively "measures") would be incorporated and binding through the DOE funding agreement. The measures below were not necessary to decrease the level of impact below significance (i.e., the impacts may have been less than significant with or without the measures), but the measures are intended to further reduce the likelihood of impacts and to ensure the Project would be carried out in an environmentally responsible manner. As a result of incorporating these measures into the Proposed Action, the federal funding would be contingent on TerraPower implementing these measures. These commitments and Project design decisions are incorporated into the Proposed Action.

2.6.1 Cultural and Historic Resource Protection

TerraPower has committed to implementing applicable measures to avoid impacts to cultural and historic resources that have been determined eligible for the National Register of Historic Places (i.e., "historic places"). Measures include, but are not limited to, the following:

- Delineating and maintaining the boundaries of historic properties adjacent to construction activities or travel areas with durable markers that indicate no entry is permitted.
- Providing awareness training to construction personnel about historic properties where no entry is permitted.
- Inspecting historic properties periodically to confirm that markers are being maintained and that no unauthorized entry is occurring.

- Continuing to monitor for items of archaeological or cultural significance, suspending activities in the vicinity of the find until it can be evaluated, and immediately notifying the appropriate agencies or tribes of discovery of any previously unidentified historic or archaeological remains during construction.
- Keeping excavated material from non-eligible cultural sites on the Project area. This material may be reused on the Project area or stored in stockpiles.

2.6.2 Spill Prevention, Control, and Countermeasure Plan

Preliminary activities would comply with federal and state regulations for management of fluids and fuels, including maintaining and implementing an SPCC plan. The purpose of an SPCC plan is to help prevent a discharge of oil or oil products into navigable waters or adjoining shorelines (lakes, rivers, or streams) and control a spill if one occurs.

Examples of BMPs described in the SWPPP include vegetation preservation, surface roughening, and dust control for erosion prevention; straw bales, perimeter silt fencing, and sediment ponds for sedimentation control; and settling ponds or tanks as needed for groundwater control from construction site dewatering. During construction, stormwater and groundwater would be held in a retention pond for sediment to settle prior to discharge. Sheet flow drainage patterns to the west would discharge into an unnamed tributary west of the construction site, while to the east would discharge toward North Fork Little Muddy Creek.

2.6.3 Infrastructure, Traffic and Transportation Measures

General steps TerraPower would take for minimizing transportation impacts include, but are not limited to, the following:

- A transportation plan for Project construction would be developed in coordination with WYDOT. Transportation would comply with WYDOT and U.S. Department of Transportation requirements, and all necessary permits would be obtained.
- A construction traffic management and traffic control plan shall be prepared in coordination with WYDOT.

2.6.4 Biological Resources Protection

Preliminary activities including parking, material storage, and equipment laydown would be restricted to designated areas. Plant and animal communities outside of these designated areas are to be avoided. Areas temporarily disturbed during preliminary activities would be stabilized and revegetated with native plants.

Vegetation clearing would be carried out in fall and winter months to avoid the avian breeding season, which generally occurs from March 1 through August 31. This is to avoid impacts to migratory birds, protected under the *Migratory Bird Treaty Act (*MBTA). Should it be necessary to clear vegetation within the March 1–August 31 breeding season timeframe, preconstruction surveys of the areas scheduled to be disturbed would be conducted a maximum of 72 hours prior to the initiation of construction activities to reduce potential effects to nests. Preconstruction surveys for migratory birds are not required outside of the breeding season. If an active nest (containing eggs or young) of a migratory bird is found, an appropriate buffer of the nest, determined in consultation with Wyoming Game and Fish Department (WGFD), would be conspicuously marked (flagged) and avoided until young birds fledge, or nest failure is apparent. Nest-clearing surveys for the burrowing owl would be conducted in areas with prairie dog burrows within the 72-hour period prior to ground disturbance. If active burrowing owl nests are

discovered, they would be protected with a 0.25-mile buffer zone where no ground disturbance is allowed.

Consistent with a request from the Wyoming Field Office of the U.S. Fish and Wildlife Service (USFWS), TerraPower would conduct eagle and raptor nest surveys for 2 miles around the facility before construction begins. Up to a one-mile buffer zone could be required around an active raptor nest, depending on the species and location of the nest.

A LCGP with an approved SWPPP would be obtained from WYDEQ prior to groundbreaking. The SWPPP would identify BMPs that would be used to limit construction-related impacts to North Fork Little Muddy Creek water quality and aquatic life. Impacts to North Fork Little Muddy Creek wetlands would also be minimized by the stormwater and erosion controls put in place during implementation of the SWPPP. The SWPPP could include: berms, riprap, sedimentation filters, and detention ponds to control drainage from the spoils piles; installation of sediment basins for removal and collection of surface water to prevent sediment-laden water from entering regulated wetlands and waterways; and, installation of silt fence and erosion controls to minimize fines content in stormwater runoff leaving the site and potentially impacting surrounding wetlands and drainage flow paths.

The visibility of fencing is used to reduce entanglement, snagging, and injuries to wildlife. TerraPower would use visibility fencing that, as evaluated by TerraPower and NRC, would not compromise site security. Increasing visibility with larger top rails, painted top rails, fence wire enclosed in polyvinyl chloride pipe, high visibility poly wire, colorful weather resistant flagging, shiny metallic tags, and other markers (including bird diverters) could be used to reduce entanglements and collisions provided they do not compromise security.

2.6.5 Health and Safety

To assist in reducing the risk of members of the general public from interacting with the hazards associated with ongoing construction activities, the Kemmerer Unit 1 Project area would be fenced in as much as possible, and signage denoting the site would be maintained. The Project has set up a concerns email inbox that will be active throughout the Proposed Action.

The emergency response procedure would include a site wide push to talk system for emergency notification. Every superintendent, general foreman, and foreman would have a connection to this system on their person. This emergency system can alert all push-to-talk systems with either tones or verbal announcements. Weather alerts would be transmitted over this system.

SECTION 3 AFFECTED ENVIRONMENT AND IMPACT ANALYSIS

3.1 Background

Section 3 describes the existing environmental resources associated with the Proposed Action based on best available data. The section also analyzes the potential environmental effects of the Proposed Action and the No-Action Alternative on the environmental resources using the best available data for the assessment. Potential environmental effects are analyzed for the Proposed Action, which encompasses the preliminary activities, those pre-Nuclear construction activities, and operations of the KTC and RFB. The Project, or the Project area, refers to the Proposed Action preliminary activities within the 290 acres shown in Figure 2.1-1. The larger, Kemmerer Unit 1 facility (or Action 3) is referred to as the NRC EIS or Kemmerer Unit 1 throughout the EA.

The evaluation of potential effects or impacts considers the size and scope of this technology demonstration project and describes the effects or impacts in terms of their type (adverse or beneficial), duration (short- or long-term), and intensity. The threshold definitions for the impact intensities used in this analysis are as follows:

- Negligible: Impacts on the resource, although anticipated, would be difficult to observe and are not measurable.
- Minor: Impacts on the resource would be detectible upon scrutiny or would result in small but measurable changes in the resource.
- Moderate: Impacts on the resource would be easily observed and measurable but would be localized or short-term (i.e., equal to or less than 2 years).
- Major: Impacts on the resource would be easily observed and measurable, widespread, and long-term (i.e., more than 2 years)[2].

In addition to these impact thresholds under NEPA, there are effects determinations definitions that are applicable specifically for the *Endangered Species Act* (ESA). The ESA effects determination for federally listed species are as follows:

- No effect: Federally listed species or critical habitat would not be affected, directly or indirectly.
- May affect but is not likely to adversely affect: All effects on federally listed species or critical habitat are beneficial, insignificant, or discountable.
- May affect and is likely to adversely affect: An adverse effect to listed species or critical habitat may occur as a direct or indirect result of the Proposed Action, and the effect is not discountable, insignificant, or beneficial.

The implementing regulations for Section 106 define specific criteria for identifying an adverse effect on a historic property:

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. Consideration shall be given to all qualifying characteristics of a

[2] As analyzed in the EA, a major impact would be an impact that is widespread and long term and affects not just individuals within the resource or species but may result in population-level effects to the species itself at a local or regional level.

historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (36 CFR § 800.5(a)(1), *Criteria of Adverse Effects*).

3.2 Identification of Resources Present, Not Present, and Affected

Consistent with NEPA implementing regulations and guidance, DOE focused the analysis in this EA on topics with the greatest potential for environmental impacts—known as the sliding-scale approach.

3.2.1 Environmental Resources Evaluated and Dismissed from Detailed Analysis

Section 3.2.1 and Table 3.2-1 present DOE's evaluations of the environmental resource areas on which the Project is expected to have no impact or a negligible impact. These resources are described below but are not carried forward for detailed analysis.

Table 3.2-1 Resources Not Carried Forward for Detailed Analysis

Resource	Not Present	No Potential	Negligible	Considerations
Noise			**X**	Construction activities associated with preliminary activities of Kemmerer Unit 1 have the potential for localized sound on a temporary basis as construction activities progress through certain locations within the Project area. Construction activities are schedule for daylight hours. The predicted noise levels from preliminary activities do not exceed typical noise levels and guidelines and are anticipated to be less than 50 decibels at existing residences. As a result of the construction noise being short duration and the distance to the nearest residence being approximately 2 miles away, impacts due to noise are anticipated to be negligible. Noise effects from preliminary activities on wildlife are analyzed in detail in Section 3.3.1.
Light Pollution			**X**	Light pollution generated by preliminary activities is expected to be negligible and similar to other existing infrastructure in the area, such as the Naughton Power Plant. The closest residence is approximately 2 miles away. Due to the light pollution expected outside of a designated night sky area and with the nearest residence being 2 miles away, impacts as a result of light pollution are anticipated to be negligible. Light pollution effects from preliminary activities on wildlife are analyzed in detail in Section 3.3.1.

Resource	Not Present	No Potential	Negligible	Considerations
Aesthetic Resources			**X**	Aesthetic impacts from preliminary activities would be negligible due to the presence of other industrial facilities in the area (e.g., Kemmerer Mine and Naughton Power Plant) as well as other natural landscape features such as plateaus and mountains. Visual impacts to cultural resources would be analyzed under the cultural resources section of the EA.
Waste Disposal			**X**	Chemical waste, hazardous waste, and industrial waste would be generated during the preliminary activities construction; however, it is not anticipated to be a large producer of waste with an expected average of three shipments of waste transported from the site each week. Disposal of all materials would be completed in accordance with applicable federal, state, and local regulations and would fall in the small quantity generator category.
Air Quality and Climate Change			**X**	Air emissions would be released as part of the preliminary activities. Emissions from diesel operated construction equipment and back-up diesel generator use during operations is expected to be negligible. All emissions would be in compliance with the National Ambient Air Quality Standards. According to the IPCC 2023 report, "Estimates of future CO2 emissions from existing fossil fuel infrastructures without additional abatement already exceed the remaining carbon budget for limiting warming to 1.5°C (50%) (high confidence)." The Project would facilitate in the abatement of future fossil fuel emissions by assisting in advancing nuclear technology as an alternative to fossil fuel sources. As a result of this, impacts to climate change are anticipated to be negligible-to-beneficial. Impacts of climate change on the preliminary activities could include increased risk of wildfire or flooding. The EI would be constructed above the natural terrain to be able to withstand impacts from a 500-year flood event to accommodate any changes associated with climate change. The maximum dam breach flood elevation of a postulated 500-year precipitation event is below the minimum NI top of embankment slope elevation and the top of concrete, non-safety-related structures; therefore, impacts of climate change on the Project would be negligible.

Resource	Not Present	No Potential	Negligible	Considerations
				There is expected to be dust generation because of the construction activities. Appropriate dust control would be employed aligning with the requirements and BMPs outlined in the SWPPP. Impacts to air quality as a result of the Project are anticipated to be negligible due to the minimal air emission sources and BMPs employed.
Prime and Unique Farmland	**X**			According to the National Resources Conservation Service, preliminary activities are not located on prime or unique farmland (Natural Resource Conservation Service [NRCS] 2020).
Human Health			**X**	Air emissions are expected to be minimal from preliminary activities, and hazardous materials would be handled in accordance with applicable regulations and spill prevention plans. Impacts to human health are anticipated to be negligible.
Recreation		**X**		The nearest recreation areas are the Kemmerer Reservoir, Bureau of Land Management (BLM) public lands, and the Fossil Butte National Monument. Recreational use at the Kemmerer Reservoir and BLM lands are considered low. BLM lands are primarily used for primitive camping, hunting, driving, and hiking where permitted. The Project would have no impacts to air quality, visual resources, or traffic patterns and, therefore, would have no impact to recreational areas.
Traditional Ecological Knowledge/ Indigenous Knowledge			**X**	DOE is consulting with Tribes through the Section 106 process under the *National Historic Preservation Act* and through government-to-government consultation. DOE's Proposed Action includes construction and operation of some components of Kemmerer Unit 1 near Kemmerer, Wyoming. DOE is not preparing a land management or landscape level NEPA review of the Project area. The Project is located on private land and not located on a Tribal reservation or public lands. DOE has initiated tribal consultation with those tribes who have ancestral ties to the area. Information received from DOE's tribal consultation is included in the cultural resources section. As DOE and Tribes continue consultation throughout this project, additional information may be included in the cultural resources section.

Resource	Not Present	No Potential	Negligible	Considerations
Effects Abroad		X		Preliminary activities are located within the continental U.S. in Kemmerer, Wyoming, and the majority of impacts would be located at the Kemmerer Unit 1 site or in the surrounding Lincoln County. Air emissions would have the potential to travel outside of the State of Wyoming; however, the dispersion rate would be high and the rate of emissions from construction would be negligible. Therefore, preliminary activities would not significantly affect the environment in the global commons or a foreign nation.

3.2.2 Summary of Resources Carried Forward

Table 3.2-2 provides a summary of the anticipated environmental impacts from the Kemmerer Unit 1 preliminary activities as described in this EA.

Table 3.2-2 Summary of Impacts

Resource Area (listed in order of appearance)	Level of Expected Impact
Ecological Resources	Minor, Short-term and Long-term impacts
Cultural Resources	Minor, Long-term impacts
Hydrology	Minor, Short-term impacts
Socioeconomics	Minor-to-Moderate, Short-term and Long-term impacts
Geological Resources	Minor, Short-term impacts
Infrastructure, Traffic and Transportation	Minor-to-Moderate, Short-term and Long-term impacts
Accidents and Hazards	Minor-to-Moderate, Long-term impacts

3.3 Affected Environment and Impacts Analysis

3.3.1 Ecological Resources

The section considers effects of the Proposed Action on ecological resources. The analysis is based in part on seasonal surveys that were conducted in support of the Kemmerer Unit 1 Project. These field efforts were intended to characterize vegetation communities and wildlife and determine if any protected species or their habitats were present.

3.3.1.1 Affected Environment

Terrestrial Communities

Vegetation Communities

The Kemmerer Unit 1 site is in the Wyoming Basin, a vast eco-region that encompasses 50,000 square miles (32 million acres) in Wyoming and smaller portions of Colorado, Utah, Idaho, and Montana. The

Wyoming Basin eco-region is a broad basin dominated by arid grasslands and shrublands and surrounded by forested mountains (Hawbaker 2012). Two major Wyoming Basin vegetation communities are found on the Kemmerer Unit 1 site: Intermountain Basins Big Sagebrush Shrubland and Intermountain Basins Greasewood Flats (Figure 3.3.1-1). Upland areas of the site are almost entirely Big Sagebrush Shrubland (49.2 percent of Site), while drainages and low-lying areas are dominated by Greasewood Flats communities (50.8 percent of Site). Dominant species in the Big Sagebrush Shrublands include big sagebrush (*Artemisia tridentata*), black sagebrush (*Artemisia nova*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), western wheatgrass (*Pascopyrum smithii*), and Sandberg bluegrass (*Poa secunda*). Greasewood flats are associated with saline soils and a shallow water table (NatureServe 2024). These sites flood intermittently but are normally dry for most of the growing season. Although normally associated with black greasewood (*Sarcobatus vermiculatus*) and other shrubs with herbaceous layer of grasses and forbs, the greasewood flats in the Project area are very sparsely vegetated (Tetra Tech 2023a). Sagebrush ecosystems, such as Cumberland Flats within which the Kemmerer Unit 1 site lies, are declining and becoming increasingly fragmented because of conifer encroachment, exotic annual grass invasion, and development.

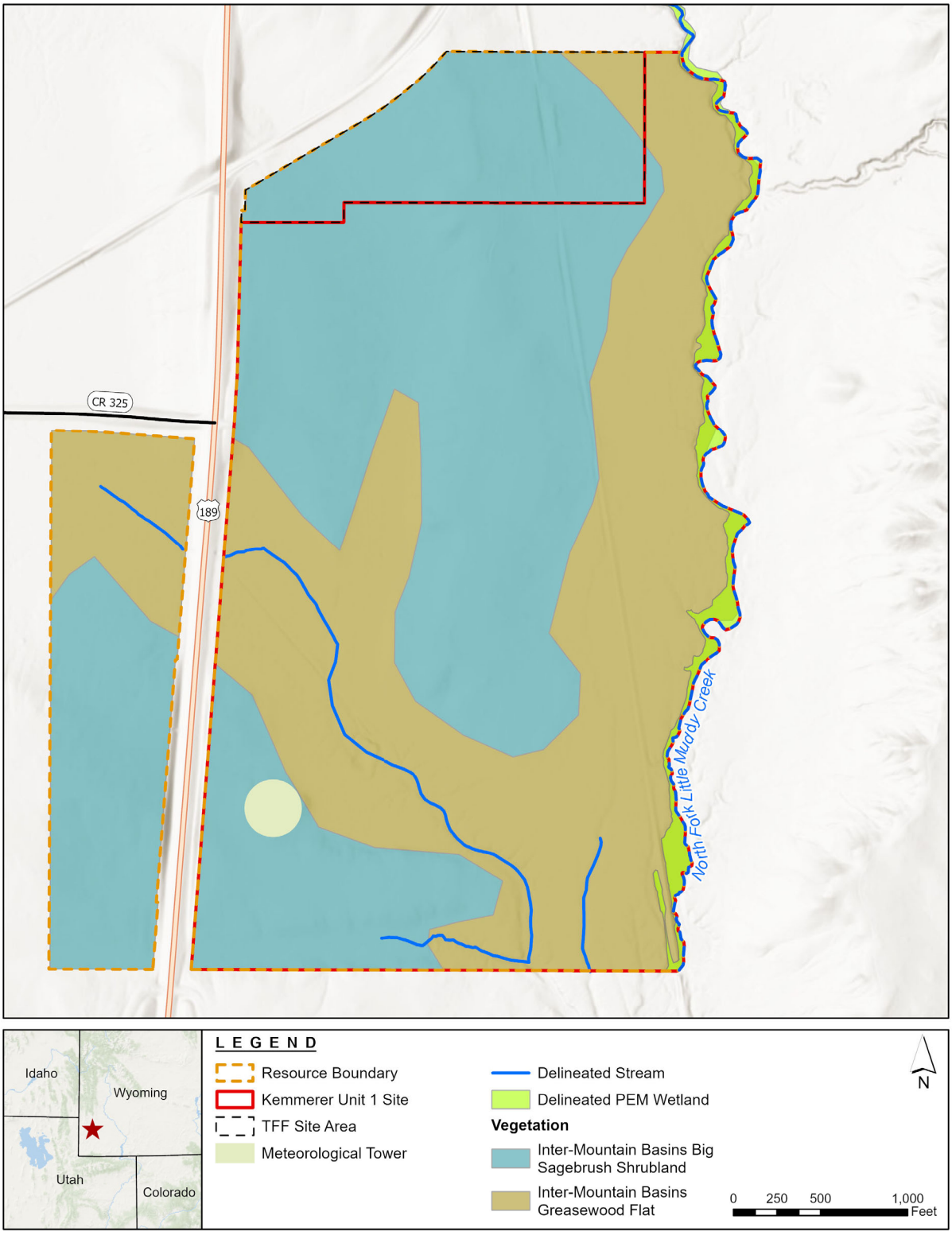

Figure 3.3.1-1 Vegetation Communities

Wildlife

Although routinely exposed to disturbance (highway traffic, coal trains) and previously disturbed from agricultural uses, the Project area and environs are used by a variety of songbirds, raptors, small mammals, and larger mammals.

Terrestrial Visual Encounter Surveys (TVES) were completed in summer 2022 and spring 2023 designed to identify any special-status terrestrial species in the Project vicinity. The TVES methodology employed was adapted from the U.S. Forest Service's Multiple Species Inventory and Monitoring Technical Guide (Manley et al. 2006). Figure 3.3.1-2 shows the survey area, which was composed of the Kemmerer Unit 1 site and associated utility corridors. Impacts associated with building and operating linear water and power utilities are outside of the scope of this assessment, however, and would be addressed in the NRC EIS. The pre-development surveys were also intended to provide a baseline against which potential Project impacts to terrestrial species could be measured. Brewer's sparrow (*Spizella breweri*) and sage thrasher (*Oreoscoptes montanus*), both Wyoming Species of Greatest Conservation Need, were the songbird species most often observed during surveys (Tetra Tech 2023b, Tetra Tech 2023c). Both species are sagebrush obligates that breed only in sagebrush habitats. Although their populations are stable, these species are considered vulnerable because of fragmentation, degradation, and loss of sagebrush habitats in Wyoming. Vesper sparrows (*Pooecetes gramineus*) and horned larks (*Eremophila alpestris*) were also relatively abundant and were observed in both sagebrush uplands and riparian areas. Brewer's blackbirds (*Euphagus cyanocephalus*) were less abundant but were widely distributed across the Kemmerer Unit 1 site.

The Project area is essentially treeless. Nesting habitat for raptors (other than burrowing owls) in the Project vicinity is limited to utility poles, transmission towers, and cliffsides associated with a north-south trending ridge approximately 0.7 mile east of the site. Turkey vultures (*Cathartes aura*) and red-tailed hawks (*Buteo jamaicensis*) were the raptors most often observed during 2022–2023 wildlife surveys (Tetra Tech 2023b, Tetra Tech 2023c). Both species were recorded on the Project area and on surrounding properties. Northern harriers (*Circus hudsonius*) were seen less often but were also recorded flying over the Project area. Golden eagles (*Aquila chrysaetos*), ferruginous hawks (*Buteo regalis*), and Swainson's hawks (*Buteo swainsoni*) were observed flying or soaring over surrounding properties but not the site proper.

Based on WGFD recommendations, consulting biologists conducted a ground-based survey of raptor nests in June 2023 (Tetra Tech 2023c). The objective of the survey was to inventory all raptor nests within the survey area plus a 2-mile buffer. Seven raptor nests were discovered, and their locations were recorded (Figure 3.3.1-2). Two active red-tailed hawk nests were recorded just outside the survey area, one on a power pole approximately 350 feet west of the northwest corner of the site, and one on a power pole approximately 350 feet south of the central survey corridor near the point at which the railroad crosses US-189. Another red-tailed hawk nest was located approximately 0.25 mile north of the "elbow" between southern and central survey corridors and adjacent to the railroad tracks. A fourth red-tailed hawk nest was located north of the entrance road to the Naughton Plant. All of the red-tailed hawk nests were active and in good condition; however, the red-tailed hawk nest on the utility pole near the northwest corner of the site had previously collapsed and had been rebuilt by the hawks. Two golden eagle nests were located approximately 0.75 mile southeast of the site. One nest was in good condition, but no activity was observed. The other nest was in very poor condition and likely had not been used in several years. A burrowing owl nest was observed in the northern survey corridor, approximately 2.8 miles north of the Kemmerer Unit 1 site and 1.2 miles south of the Naughton Plant generating facilities. It appeared active with two adults present when observed.

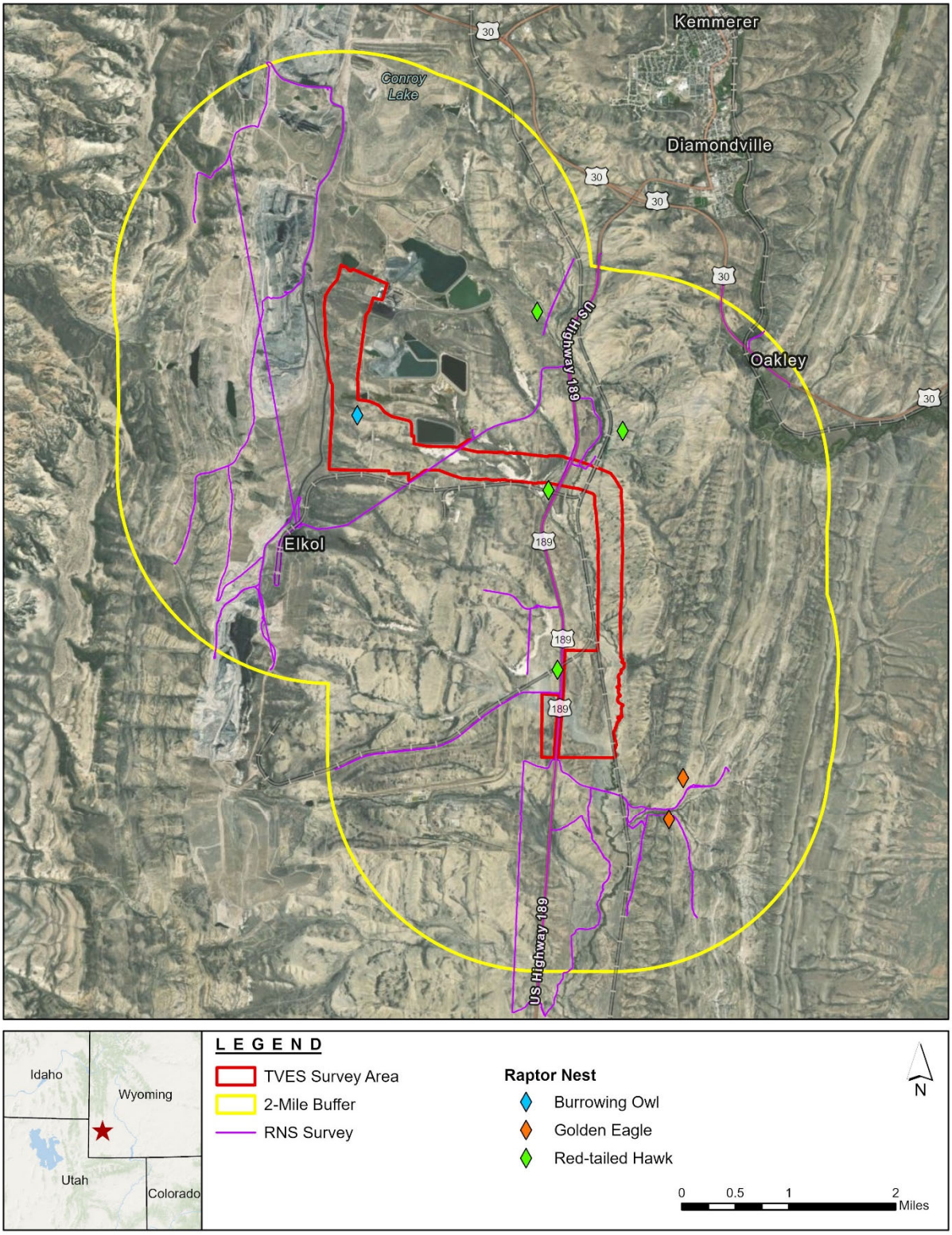

Figure 3.3.1-2 Raptor Nests

Small mammals regularly observed during wildlife surveys included least chipmunks (*Tamias minimus*), Uinta ground squirrels (*Spermophilus armatus*), mountain cottontails (*Sylvilagus nuttallii*), and white-tailed prairie dogs (*Cynomys leucurus*) (Tetra Tech 2023b, Tetra Tech 2023c). There were many more small mammal sightings in 2022 than 2023, however. The winter of 2022–2023 was both unusually long and severe, and mortality for both small and large mammals was very high (Ball 2023).

White-tailed prairie dogs were particularly abundant, with colonies scattered across the site uplands and corridors. Avian predators in the western Great Plains, such as bald eagles, golden eagles, ferruginous hawks, northern harriers, peregrine falcons (*Falco peregrinus*), Cooper's hawks (*Accipiter cooperii*), red-tailed hawks, and northern goshawks (*Accipiter gentilis*) all prey on prairie dogs (Connell et al. 2019). Prairie dogs are a particularly important resource for wintering ferruginous hawks and golden eagles (Salas et al. 2024).

Four big-game species that are actively managed by WGFD occur in the vicinity of the Kemmerer Unit 1 site: mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), elk (*Cervus canadensis*), and moose (*Alces alces*). Pronghorn were regularly seen by biologists who conducted surveys of the site and environs in 2022 (Tetra Tech 2023b) and 2023 (Tetra Tech 2023c). Mule deer were seen less frequently, but mule deer sign (tracks, shed antlers) was often observed. Skeletal remains of both species were occasionally observed, particularly after the prolonged winter of 2022–2023. No live elk were observed, but elk tracks and scat were observed in 2022 (Tetra Tech 2023b). No moose or moose sign was observed in 2022 or 2023.

Threatened and Endangered and Special-Status Species

Federally Listed and Candidate Species

An Information for Planning and Consultation (IPaC) report for the Project indicated that seven federally listed and candidate species could be "potentially affected by activities at this location" (USFWS 2022):

- Bonytail (*Gila elegans*): endangered
- Colorado pikeminnow (*Ptychocheilus lucius*): endangered
- Humpback chub (*Gila cypha*): threatened
- Razorback sucker (*Xyrauchen texanus*): endangered
- Yellow-billed cuckoo (*Coccyzus americanus*): threatened
- Monarch butterfly (*Danaus plexippus*): candidate species
- Ute ladies'-tresses (ULT) (*Spiranthes diluvialis*): threatened

A desktop review of the scientific literature and information on the USFWS and Wyoming Natural Diversity Database (WYNDD) resource agency websites suggested that only two of these species—the Monarch butterfly and Ute ladies'-tresses—could be present based on available suitable habitat (USFWS 2024 and WYNDD 2024a). The four fish are all big-river species, historically found in the upper Colorado River and its major tributaries, including the Green River. However, their populations have been drastically reduced by water development projects and competition with invasive species. All four fish species are presumed to have been extirpated in Wyoming (USFWS 2024). Yellow-billed cuckoos in Wyoming are associated with cottonwood and willow-dominated riparian areas with densely vegetated understories. The WYNDD Data Explorer shows no observations, recent or historic, of yellow-billed cuckoos closer than the Green River riparian corridor (Sweetwater County), which is more than 40 miles east of the Kemmerer Unit 1 site (WYNDD 2024a).

Monarch butterflies can be found anywhere within their range where milkweed and other insect-pollinated flowers are common, including weedy margins between buildings and roadsides. They have been observed across the state of Wyoming but are regarded as rare (WYNDD 2024b). No milkweed or adult monarch butterflies were observed during the 2022 or 2023 surveys of the Kemmerer Unit 1 site and environs.

Because the 2022 IPaC report and desktop review indicated that ULT could be present, consulting wetland scientists surveyed streams and wetlands in the site vicinity in early September 2022 in accordance with U.S. Fish and Wildlife Service's "Interim Survey Requirements for Ute Ladies-tresses Orchid (*Spiranthes diluvialis*)" (USFWS 1992) to determine if any contained ULT or suitable habitat for the species. Of the 12 locations selected for 2022 surveys, two locations with perennial flow were deemed potentially suitable. The largest area of suitable habitat was the riparian zone of North Fork Little Muddy Creek. This area exhibited suitable hydrology, soils, and vegetation, with acceptable levels of disturbance. No ULT or other similar orchid species were observed during the 2022 surveys (Tetra Tech 2024a). Areas judged to provide marginally suitable habitat for ULT were re-surveyed in 2023 and 2024 in accordance with the Interim Survey Requirements, which call for three consecutive late-summer (July 20–August 31) surveys to determine if the species is present or absent. No ULT were found in 2023 (Tetra Tech 2023d) or 2024 (Tetra Tech 2024b).

No federally listed species, species proposed for listing, or candidates for listing were observed by biologists conducting wildlife surveys in 2022 and 2023 (Tetra Tech 2023b, Tetra Tech 2023c). None have been observed during other (less systematic) reconnaissance surveys of wildlife. None were observed during wetland surveys in 2022 (Tetra Tech 2023a) or aquatic surveys in 2022 and 2023 (BIO-WEST 2024).

Bald and Golden Eagles

Bald and golden eagles, protected under the *Bald and Golden Eagle Protection Act*, have not been recorded on the site proper, but have been observed flying or soaring over the utility corridor and perching on transmission towers several miles north of the site. Two old (inactive) golden eagle nests were observed approximately 0.75 mile southeast of the site during raptor nest surveys in June 2023, but no active nests were discovered (Tetra Tech 2023c).

Birds of Conservation Concern

Birds of Conservation Concern (BCC) are a subset of species protected under the MBTA. The BCC list, mandated by the *Fish and Wildlife Conservation Act* and periodically updated by the USFWS, identifies especially vulnerable migratory bird species that without additional conservation actions are likely to become candidates for listing under the *Endangered Species Act*. The IPaC report (USFWS 2022) indicated that five Birds of Conservation Concern could be affected by Project activities: Cassin's finch (*Carpodacus cassinii*), golden eagle, rufous hummingbird (*Selasphorus rufus*), Western grebe (*Aechmophorus occidentalis*), and willet (*Tringa semipalmata*).

Only one of these species was observed on the Kemmerer Unit 1 site during wildlife surveys. A willet was observed foraging along North Fork Little Muddy Creek in June 2023. As noted previously, golden eagles were observed flying over utility corridors and perching on transmission towers north of the site. Western grebes were observed on industrial ponds and basins at the Naughton Power Plant.

Wyoming Species of Greatest Conservation Need

Wyoming Species of Greatest Conservation Need (SGCN) are those "whose conservation status warrants increased management attention, and funding, as well as consideration in conservation, land use, and development planning in Wyoming" (WGFD 2017a). Although important to DOE and resource agency staff, SGCN are not formally protected by the state of Wyoming. However, some SGCN, such as bald and golden eagles and virtually all migratory birds, receive varying degrees of federal protection by way of the *Bald and Golden Eagle Protection Act* and the MBTA. Seven species designated SGCN by the Wyoming Game and Fish Department were observed on the Kemmerer Unit 1 site during the 2022–2023 wildlife surveys: Brewer's sparrow, common yellowthroat (*Geothlypis trichas*), great blue heron (*Ardea herodia*), greater sage-grouse (*Centrocercus urophasianus*), loggerhead shrike (*Lanius ludovicianus*), sage thrasher, and the white-tailed prairie dog (Tetra Tech 2023b, Tetra Tech 2023c).

Two SGCN were particularly abundant—white-tailed prairie dogs and Brewer's sparrows. Prairie dog colonies were scattered across the Kemmerer Unit 1 site but were more prevalent in sagebrush-shrub habitats than greasewood flats habitats or the North Fork Little Muddy Creek floodplain. Thirty-one colonies with up to 200 prairie dog burrows were recorded in 2022; 50 colonies were recorded in 2023 (Tetra Tech 2023b, Tetra Tech 2023c). Brewer's sparrows were common-to-ubiquitous in both years (207 individuals recorded in 2022, 231 in 2023). Although more often observed in uplands (sagebrush habitats), they were also observed in greasewood flats habitats and in the North Fork Little Muddy Creek floodplain.

Species that are the Subject of Governor's Office Executive Orders

The greater sage-grouse is an iconic western species that has in recent years become the focus of agency conservation efforts because the health of its populations is indicative of the health of sagebrush-dominated ecosystems. It is also a Wyoming SGCN. Wildlife biologists who conducted systematic surveys (TVES) of the Kemmerer Unit 1 site and macro-corridors in 2022 and 2023 saw no greater sage-grouse, nor did biologists who conducted raptor nest surveys of a wider area (two-mile radius) in 2023. A Tetra Tech biologist who conducted a site reconnaissance in September 2021 flushed a large group of sage grouse (15 birds) in the approximate center of the site (Hal Mitchell, personal communication, October 5, 2021). No sage grouse were observed during any of the surveys or visits after 2021, but sage grouse sign was occasionally observed on the Kemmerer Unit 1 site and survey corridors.

Wyoming Governor's Office Executive Order (EO) 2019-3 is intended to promote greater sage grouse conservation so that federal listing is unnecessary. The EO defines Core and Non-Core Population Areas for the greater sage-grouse. Core Population Areas are the areas of the state with the highest densities of breeding greater sage-grouse. The EO calls for incentivizing and prioritizing development outside of Core Population Areas. Non-Core Population Areas are habitats suitable for greater sage-grouse that are outside of the Core Population Area. Additionally, the EO describes Connectivity Areas and Winter Concentration Areas. These are areas that are important to greater sage-grouse for movement (thus gene flow) and winter survival but are not captured in the Core Population Area boundaries.

Based on WGFD data, no greater sage-grouse leks (breeding areas) or Core Population Areas overlap the Project area (WGFD 2021, WGFD 2023a; Figure 3.3.1-3). The nearest Core Population Area (Sage) is approximately 0.5 mile east of the Project area. The site is approximately 4.2 miles west of an occupied lek (G – Little Round Mountain NW). There are no Connectivity Areas or Winter Concentration Areas in Lincoln County (WGFD 2017b). Given that no Core Population Areas and no leks were likely to be disturbed by Project activities, no species-specific surveys were proposed for greater sage-grouse in

accordance with the Wyoming EO. However, they were to be recorded (location, number of birds) if observed, whether during wildlife surveys or incidentally.

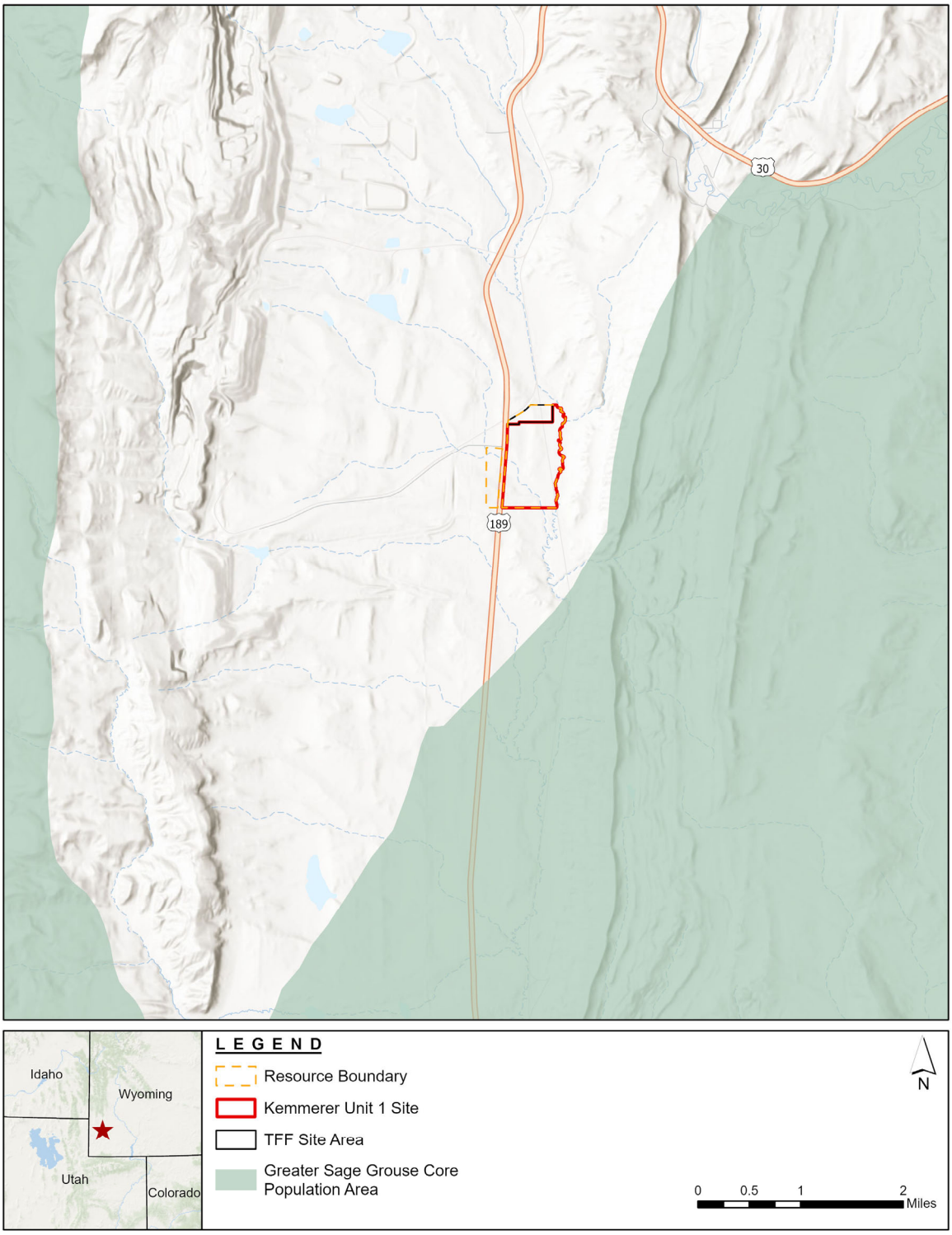

Figure 3.3.1-3 Greater Sage-Grouse Core Population Area

The Project area lies in the northern part of a broad valley called Cumberland Flats that extends approximately 26 miles from the Kemmerer area south almost to I-80. Mule deer and pronghorn migrate between their summer ranges in the high country west and southwest of the site and winter ranges in the Cumberland Flats, which allows them to take advantage of water and high-quality forage in the mountains in summer but seek out areas in winter where snow is not as deep and shrubby browse (including big sagebrush and bitterbrush) is available. Most (106 square miles or 68,000 acres) of Cumberland Flats has been designated pronghorn crucial winter, year-long range by WGFD (Figure 3.3.1-4; WGFD 2023b).

The Wyoming Governor's Office Executive Order 2020-1 offers a science-based approach for identifying potential big game migration corridors for consideration when managing these species and lays out the process for designating future migration corridors in the state. Three historic mule deer migration corridors were designated in the EO as worthy of protection. No WGFD-designated migration corridors established in EO 2020-01 overlap the Project area.

The Wyoming Game and Fish Commission voted in March 2024 to "identify" the Sublette Antelope Migration Corridor (WGFD 2024), which is approximately 3 miles east of the Kemmerer Unit 1 site (Figure 3.3.1-4). This storied migration route extends from summer ranges in the mountains around Jackson to the winter ranges in the sagebrush-steppe country around Rock Springs and Green River. Identification is the first step toward designation of a corridor. WGFD would prepare a biological risk assessment in association with local government officials, stakeholders, and affected landowners. The public will then have an opportunity to comment on the assessment. Once the assessment has been completed, the Commission would vote on whether to recommend formal designation to the Governor. The timetable for these activities is uncertain.

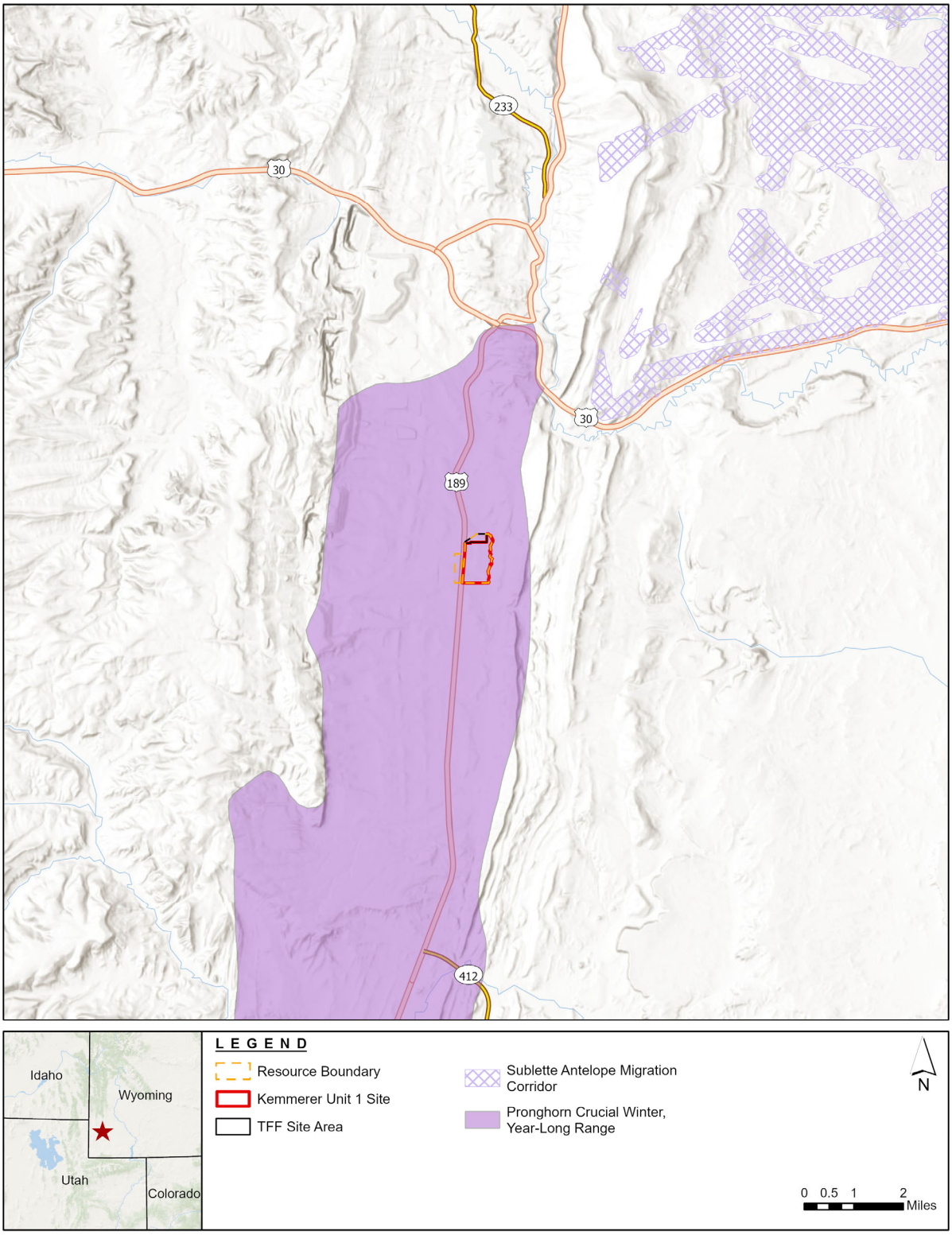

Figure 3.3.1-4 Pronghorn Crucial Winter, Year-Long Range

Aquatic Communities

North Fork Little Muddy Creek, a small perennial stream, flows south by the site and serves as its eastern boundary. It joins Little Muddy Creek, a larger perennial stream, approximately 10 miles south of the site. There are no wetlands, streams, or ponds on the site proper and no aquatic life. DOE has included a description of North Fork Little Muddy Creek's aquatic communities because they could be indirectly impacted by the preliminary activities.

Biologists surveyed aquatic communities of North Fork Little Muddy Creek at stations upstream of the site, adjacent to the site, and downstream of the site in 2022 and 2023. North Fork Little Muddy Creek is a small stream that is subject to sudden changes in flow and temperature with changes in Naughton Plant power levels and maintenance outages. Benthos samples from North Fork Little Muddy Creek were numerically dominated by chironomids, which are generally regarded as indicators of poor water quality, mayflies (*Callibaetis*), the gastropod snail *Physella*, and aquatic earthworms (oligochaetes), also regarded as indicators of poor water quality (BIO-WEST 2024).

The North Fork Little Muddy Creek fish community is composed of hardy, pollution-tolerant species. Three common western cyprinids: redside shiner (*Richardsonius balteatus)*, speckled dace (*Rhinichthys osculus)*, and longnose dace (*R. cataractae)* were particularly abundant in 2022 and 2023, comprising approximately 81 percent of all fish collected from North Fork Little Muddy Creek (BIO-WEST 2024). Smaller numbers of mountain suckers (*Catostomus platyrhynchus*), white suckers (*C. commersonii*), and fathead minnows (*Pimephales promelas*) were also collected. A single Utah chub (*Gila atraria*) was collected in 2023. Of the seven fish species documented in North Fork Little Muddy Creek during baseline monitoring, only two (speckled dace and mountain sucker) were native to the Green River Basin (WGFD 2017c). No special-status fish species were collected.

Although not collected during the 2022–2023 fish surveys, one fish designated a SGCN, the roundtail chub (*Gila robusta*), was collected in North Fork Little Muddy Creek by WGFD biologists in 2004 and 2018 (Lockwood 2022). All of the roundtail chubs collected by WGFD were in the lower reaches of the stream, just above its confluence with Little Muddy Creek. It is possible that a culvert in this area is an obstacle to upstream movement of fish (Lockwood 2023).

Agricultural

The region has been historically used for agriculture including livestock grazing for cattle and sheep in the late 1800s. In recent decades, the number of cattle and sheep grazing in the Project area has greatly decreased. However, signs of historic and present grazing are found throughout with well-worn trails and trampled stream banks. Livestock trails in the area are used by local ranchers to "run" their livestock (mostly sheep) from winter to summer ranges and back, typically in the fall and spring seasons. Approximately 15 sheepherders could be near the site at one time. Wyoming is an "open range" state, so ranchers are free to graze cattle in unfenced areas or herd sheep (which must be tended) through them. By law, Wyoming is a "fence out" state, which means that landowners are responsible for protecting their own property from ranging livestock. A stock-owner is not liable for trespass or damage if a property is not adequately protected by a "lawful fence" (Wyoming Statute §11-28-102). The "fence out" rule applies to cattle and domestic bison, but Wyoming is a "fence in" state for sheep.

3.3.1.2 Environmental Impacts Related to Ecological Resources

Terrestrial Communities

Approximately 165 acres of vegetation and wildlife habitat would be permanently altered by the preliminary activities (Figure 2.1-1). Approximately 101 acres of Big Sagebrush Shrubland and 64 acres of Greasewood Flat vegetation would be affected by clearing and grubbing activities. This would represent a fraction of the 32 million acres of shrubland and grassland in the Wyoming Basin. Based on the relatively small acreage of Sagebrush Shrubland and Greasewood Flat that would be removed and the fact that these vegetation communities have been previously disturbed by agricultural activities, preliminary activity impacts to vegetation communities would be minor and long-term.

Clearing, grading, excavating, and filling habitats within the construction zone are expected to lead to mortality of some small, less-mobile mammals and reptiles and could (in the absence of protective measures) directly impact nesting birds with eggs or young. Burrowing animals, like prairie dogs and ground squirrels, are especially vulnerable to heavy equipment impacts. Numerous prairie dogs and ground squirrels (and their burrows) were observed during the 2022–2023 wildlife surveys. Clearing 101 acres of sagebrush shrubland would reduce numbers of small mammals in the immediate vicinity of Proposed Action but would have no discernible long-term impact on small mammal populations at landscape scale (i.e., Upper North Fork Little Muddy Creek watershed) or regional scale (i.e., Wyoming Basin).

Wildlife could be harmed by collision or entanglement with fences. Given that security is a concern at a proposed future nuclear facility, wildlife-friendly designs recommended by organizations like the Wyoming Wildlife Foundation (2015) would not be feasible. For example, the Wyoming Wildlife Foundation recommends that fences be no more than 42 inches (1.1 meters) high, which is inappropriate for a proposed future nuclear facility due to NRC construction permitting regulations (10 CFR 73.2).

The visibility of fencing is used to reduce entanglement, snagging, and injuries to wildlife. TerraPower would use visibility fencing that, as evaluated by TerraPower and NRC, would not compromise site security. Increasing visibility with larger top rails, painted top rails, fence wire enclosed in polyvinyl chloride pipe, high visibility poly wire, colorful weather resistant flagging, shiny metallic tags, and other markers (including bird diverters) could be used to reduce entanglements and collisions provided they do not compromise security.

Impacts would typically be to individual animals, rather than groups of animals, and would have no significant long-term impacts on populations.

Industrial ponds attract wildlife (birds, small and large mammals) in Wyoming's arid environment. Industrial ponds and basins would be constructed with gently sloping banks or equipped with escape ramps to prevent wildlife from drowning. Construction and operations personnel would have a contingency plan for rescuing trapped animals, maintain a log of wildlife drownings, and report any wildlife die-offs (e.g., waterfowl). With these measures in place, the number of fatalities would be negligible, and any impacts would be minor.

Noise, human activity, and movement of heavy equipment tend to displace birds, larger mammals, and some more-mobile reptiles. These animals generally move to areas nearby that offer suitable habitat and lower levels of disturbance. There would be some physiological stress and minor energetic expenses associated with fleeing construction zones and locating alternative habitats in the vicinity. Depending on the species and individual, some of the displaced animals may return to the area surrounding the facility

once construction has been completed. Some species (e.g., greater sage-grouse, ferruginous hawk, pronghorn) are more sensitive to disturbance than others (e.g., mourning doves, crows, prairie dogs).

The MBTA prohibits the "take" (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS. Preliminary activities such as grubbing and clearing could impact shrub-nesting birds (e.g., Brewer's sparrow, sage thrasher), ground-nesting birds (e.g., horned lark, western meadowlark, killdeer), and burrowing owls, which nest in burrows dug by prairie dogs, ground squirrels, and badgers. All of these species are migratory and subject to the provisions of the MBTA.

To the extent practicable, vegetation clearing would be carried out in fall and winter months to avoid the avian nesting season. Should it be necessary to clear vegetation during the nesting season, surveys of the areas scheduled to be disturbed would be conducted prior to construction. Based on agency recommendations, TerraPower commissioned a pre-construction nest survey protocol (Tetra Tech 2024c) that was successfully employed in the days leading up to groundbreaking for the Sodium TFF in May 2024. One active sage thrasher nest and 31 inactive nests were discovered during the TFF pre-construction surveys. The sage thrasher nest with nestlings was conspicuously flagged, protected with a 300-foot avoidance buffer, and monitored until the nestlings fledged. The nest survey protocol would be adapted and refined for use in 2025 if vegetation clearing or ground disturbance is required during the avian nesting season. When the noise control measures (such as mufflers on portable generators) are employed and pre-construction nest survey protocols (Tetra Tech 2024c) followed, impacts to migratory birds should be temporary and minor.

As noted earlier, the Project area lies in the northeast part of a 68,000-acre area managed as crucial winter range/year-long range for antelope by WGFD. Construction noise and activity would disturb antelope that customarily forage in this part of the range or that move through it during seasonal migrations. Cumberland Flats is approximately 4 miles wide in the area where facilities would be built (see Figure 3.3.1-4). Given the large expanse of sagebrush shrubland that surrounds the site to which antelope could disperse if disturbed, the impact of construction would be limited to minor energetic expenses associated with avoiding the noise and activity of the construction area.

Based on the 165 acres of sagebrush shrubland and greasewood flats that would be affected and the fact that these vegetation communities have been previously disturbed by agricultural activities (grazing livestock), construction impacts to native vegetation communities at local, landscape, or regional scales would be minor and long-term. Small numbers of burrowing mammals and reptiles could be eliminated by earth-moving equipment, but larger mammals (e.g., pronghorn and mule deer) and non-breeding birds would in most cases move to nearby areas with a lower level of disturbance. Larger mammals moving through the Project area would encounter fencing; and due to increased truck traffic on HWY 189, animal collisions may increase with minor and short-term effects. The reduction in the number of small mammals and reptiles may impact the food source for birds of prey; however, due to the relative size of the Project area in comparison to the surrounding public lands, this impact would be negligible. Impacts to wildlife from preliminary activities would therefore be minor and long-term. Effects to sage grouse would be minor and short-term due to noise effects from construction equipment; however, the nearest lek is over 4 miles away from the Project area.

DOE has determined that planned Project activities would not affect a federally listed or candidate species. Neither of the listed species (Ute ladies'-tresses) or candidate species (monarch butterfly) with potentially suitable habitat in the Project area was observed during surveys. There is no suitable habitat in the Project area for the other five federally listed species (bonytail, Colorado pikeminnow, humpback

chub, razorback sucker, yellow-billed cuckoo) that the IPaC review (USFWS 2022) suggested could be potentially affected.

Aquatic Communities

As shown in Figure 2.1-1, all preliminary land-disturbing activity for Kemmerer Unit 1 would take place outside of the North Fork Little Muddy Creek floodplain. Therefore, none of the proposed activities are expected to directly impact a surface waterbody. Two preliminary activities could potentially impact water quality and the aquatic communities of North Fork Little Muddy Creek and its tributaries: (1) clearing and grading for the South Construction Laydown Area, which is approximately 47 feet from North Fork Little Muddy Creek and (2) clearing and grading for the North Laydown Area, which is approximately 87 feet from North Fork Little Muddy Creek. Disturbed soil from these activities could be carried into North Fork Little Muddy Creek with stormwater, increasing turbidity and ultimately settling on the stream bottom. Silt and sediment on the stream bottom could eliminate benthic organisms and force fish to move to less-disturbed stream reaches.

TerraPower would be required to submit an SWPPP with BMPs to WYDEQ with its application for a WYPDES LCGP. These BMPs should minimize impacts to North Fork Little Muddy Creek's aquatic communities.

North Fork Little Muddy Creek, notwithstanding its 3B Surface Water Classification, supports a reasonably diverse fish community, including one Wyoming SGCN, the roundtail chub.

TerraPower is required to fully comply with Wyoming's Surface Water Quality Standards, which include (Chapter 1, Section 32) specific protections for aquatic communities:

> *"Class 1, 2, and 3 waters of the state must be free from substances, whether attributable to human-induced point source discharges or nonpoint source activities…which will adversely alter the structure and function of indigenous or intentionally introduced aquatic communities."*

The aquatic biota of North Fork Little Muddy Creek are hardy, pollution-tolerant taxa adapted to extreme fluctuations in flow, temperature, and levels of both dissolved and suspended solids. Temporary increases in turbidity and sediment loads, if they occur, would have a minor impact on benthic organisms and negligible impacts on fish, beyond a possible avoidance response (moving up- or downstream to a less turbid stream reach).

Agricultural

According to the BLM Kemmerer Resource Management Plan (BLM 2010), the site falls within the Cumberland/Uinta Allotment and was assigned to the "M" or "Maintain" category. The Cumberland/Uinta Allotment is 337,659 acres with authorized livestock use by cattle (89.1%) and sheep (10.9%). Most of the Cumberland/Uinta Allotment is located in Lincoln and Uinta counties between Kemmerer and Evanston, Wyoming, which is where most of the allotments with an "M" designation occur.

Free range cattle would be more susceptible to loss than sheep due to collision with vehicle traffic; sheep would likely be protected by the herder and guided away from roadways. Dust caused primarily by roads could affect rangeland health and productivity and decrease the palatability of forage for livestock and wildlife. There is expected to be dust generation because of the construction activities. Appropriate speed limits and dust control to limit impacts to cattle and sheep would be employed, aligning with the requirements and BMPs outlined in the SWPPP.

Ultimately, the loss of the acreage converted to industrial use (approximately 290 acres) is a less than one percent of the available range (337,659 acres) and would not prevent the herds moving through the area to travel from winter to summer range. While the fenced-out site would be inaccessible to the sheep, they could move through the flats to the east of North Fork Little Muddy Creek. Preliminary activity impacts to livestock would be minor and long-term.

3.3.1.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project, the Proposed Action. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Therefore, there would be no impacts to terrestrial or aquatic communities.

3.3.1.4 Cumulative Impacts

Given proximity, the only activities expected to have incremental cumulative impacts to the Proposed Action are the construction of the TFF and the Kemmerer Unit 1 Project under NRC's review, which includes the water supply pipeline and transmission lines. The area of disturbance would be increased to 234 acres to evaluate cumulative impacts (combining the TFF and Kemmerer Unit 1 areas of disturbance).

None of the construction planned for the TFF or Kemmerer Unit 1 would encroach on the habitat of any federally listed species, species proposed for federal listing, or candidate for federal listing. The zone of noise-related disturbance would be slightly larger, however, because site preparation and infrastructure development for Kemmerer Unit 1 would coincide with construction of TFF, effectively expanding the Project perimeter. This would mean disturbing relatively more migratory birds in spring and summer. Ground disturbing activities would be scheduled to avoid the spring-summer nesting period of migratory birds. If this is infeasible, pre-construction nest surveys would be conducted so that nests in the construction zone can be marked and avoided. Both TFF and Kemmerer Unit 1 are within the pronghorn crucial winter, year-long range. The total acreage disturbed for both Projects is expected to be less than 0.5 percent of the Cumberland Flats pronghorn crucial winter, year-long range and have little or no impact on its management.

The amount of disturbed soil that would move into North Fork Little Muddy Creek with storm water as a result of NRC EIS Kemmerer Unit 1 construction is likely to be larger than that from TFF construction because a larger area is expected to be disturbed. The combined effect of both Projects on North Fork Little Muddy Creek's water quality and aquatic communities would still be negligible, however, because of the mitigation measures imposed by the LCGP.

Based on the impact thresholds in Section 3.1, the cumulative impacts of TFF construction and NRC EIS Kemmerer Unit 1 construction on plant and animal communities would be detectible, measurable, and long term but minor and would not destabilize any wildlife populations. While impacts would be noticeable locally, they would not be evident on a landscape scale (i.e., Upper North Fork Little Muddy Creek watershed) or regional scale (i.e., Wyoming Basin). As noted previously, the TFF site and NRC EIS Kemmerer Unit 1 site are not high-quality wildlife habitats, as they are adjacent to US-189 and have historically been used by the herds of sheep that are moved through the valley in spring and fall.

3.3.2 Cultural Resources

Historic and cultural resources are vestiges of past human activities and include archaeological sites, buildings, structures, districts, and objects that illustrate, embody, or result from human activities. These resources also include traditional cultural properties that are important to a living community of people for maintaining their culture. Historic and cultural resources are regarded as historically significant if they have been listed in or determined eligible for the National Register of Historic Places (NRHP). Such resources are termed historic properties. A resource is eligible for the NRHP if it retains integrity of location, design, setting, materials, workmanship, feeling, and association and meets at least one of four criteria, including: (1) association with important historical events, (2) association with important historical persons, (3) representation of an important architectural or cultural design or construction; or (4) having the potential to yield important historical information (36 CFR § 60.4).

In 2022, a Class III cultural resource inventory of a 1,508-acre Study Area was conducted (Karpinski and Karpinski 2023). The Study Area includes the area of potential effects (APE) for the preliminary activities. The direct APE is the area within which ground disturbances resulting from preliminary activities may occur that could impact archaeological or other cultural resources. The inventory was conducted over four field events: April 26 to May 3, 2022; May 10 to May 17, 2022; July 23 and 24, 2022; and October 19, 2022. A team of three professional archaeologists, accompanied by Tribal Cultural Specialists from the Northern Arapaho Tribe, Comanche Nation, and Arapaho Tribe of Oklahoma, performed the inventory. Due to the relatively sparse vegetation and the generally limited potential in the inventoried area for the accumulation of sediments, the primary survey method was systematic surface inspection. The inventory was accomplished using pedestrian transects spaced no further than 30 meters (100 feet) apart and oriented parallel within the Study Area, depending on topography.

Potential indirect effects are those that are distant in time or space from the Project. There are various types of indirect effects that could affect historic properties, including visual, auditory, vibratory, and changes in land use. Given the local environment and the types of historic properties in the area, it was determined that only visual indirect effects are of concern. These effects would result from a change in the visual setting of a historic property due to the construction of Project buildings and structures. An analysis of the potential indirect effects of the preliminary activities identified individual resources that meet the WY SHPO's definition of visually sensitive resources—i.e., historic properties whose eligibility to the NRHP rest in part on the visual setting within which they are located—within a 5-mile radius of the preliminary activity Project area. The 5-mile radius comprises the indirect APE for the Project. The analysis then collected field data at the visually sensitive resources to confirm intervisibility (or the ability of two or more objects to be seen from each other) with the preliminary activities and to assess the degree of visual impact on each resource from the Proposed Action.

Fieldwork for the visual effects analysis took place on July 10 and 11, 2023. For the identification stage of the visual impact analysis, a geographic information system (GIS)-based analysis was utilized with the current WY SHPO database layer showing the location of known visually sensitive historic properties and a 10-meter (33-foot) grid resolution digital elevation model augmented by a 1-meter (3.3-foot) vegetation layer. Tetra Tech assumed that the maximum height above grade of the proposed structure, the Reactor Fabrication Building, was 38.1 meters (125 feet). The resulting line-of-sight analysis categorized the indirect APE into "more visible," "partially visible," and "not visible" areas from the completed facility. The known cultural resource layer obtained from the WY SHPO database was then overlain with the line-of-sight analysis to determine which visually sensitive historic properties in the indirect APE would have a view or partial view of the buildings. A field investigation of these properties involved visiting

each identified historic property, verifying intervisibility, and utilizing a standard protocol to assess the visual impact of the proposed construction (Karpinski and Karpinski 2024a, 2024b).

3.3.2.1 Affected Environment

Direct APE

The 2022 cultural resources survey recorded 14 archaeological sites and one archaeological landscape situated partly or wholly within the direct APE. These include nine precontact period sites, two historic period sites, four multicomponent (precontact period and historic period) sites and a precontact lithic landscape (Table 3.3.2-1). Six of the sites and the landscape had previously been the subjects of consultations with the WY SHPO concerning the TFF, which adjoins the Project area for the preliminary activities. These sites were 48LN740, 48LN2697_4, 48LN8955, 48LN8971, 48LN8975, and 48LN8976, along with the lithic landscape, 48LN3203 (Karpinski and Karpinski 2024a, 2024b). On April 4, 2024, WY SHPO concurred that the latter four resources were not eligible for the NRHP. WY SHPO further concluded that 48LN2697_4 is a non-contributing segment of an NRHP-eligible resource and would not be affected adversely by the TFF undertaking, implying concurrence with the underlying finding that the segment is non-contributing. For the TFF undertaking, Site 48LN740 was assessed based on the site boundaries mapped in 2022, and it was concluded that the undertaking would have no adverse effect on the site (Applegate 2024; Currit 2024a).

WY SHPO has since asserted that the best boundary for this site incorporates not just the area Tetra Tech mapped as its extent in 2022, but, following Page and Kelley (2024: Figure 54), it also includes amalgamated elements from investigations in the 1980s, when the site was first identified (Moe 1984:Figure 9), and a subsequent documentation of the site in the 1990s (Harding 1994:Figure 5.34). As of October 2024, this amalgamated site boundary is the one shown by the official online state site file system, WyoTrack (Shimek et al. 2024). An analysis of the site has concluded that the only portion that contributes to the site's eligibility is an approximately 1-acre area in its south-central section east of Highway 189 containing an anchored sand sheet. Auger probes in this area detected the presence of archaeological deposits in a stratum at a depth of 8 to 20 inches (20 to 50 centimeters) below the surface. This portion of the site retains elements that further study would contribute to research questions regarding prehistoric subsistence and resource processing practices. Elsewhere, the surface archaeological deposits lack the integrity necessary to address such questions, and these areas of the site are noncontributing to its NRHP eligibility (Karpinski and Karpinski 2024b). Consultation with WY SHPO was completed on January 28, 2025. WY SHPO stated that they concurred with DOE's findings including that the portion of 48LN740 within the direct APE is non-contributing.

The 2022 survey recommended that the eight other newly identified sites do not meet the criteria to be eligible to the NRHP. Included are five precontact sites, one historic site, and two multicomponent sites. They are not associated with a historically important event or person, do not represent a well-defined style or design or the work of a master, and they have low information potential (Karpinski and Karpinski 2024b).

The 2022 cultural resources survey also identified 26 Isolated Resources (IRs) in the direct APE. These included 10 precontact period IRs, 14 historic period IRs, and two multicomponent IRs (Table 3.3.2-1). IRs are not recommended as eligible for the NRHP because they are not associated with a historically important event or person, do not represent a well-defined style or design or the work of a master, and have low information potential (Karpinski and Karpinski 2024b).

Table 3.3.2-1 Inventoried Historic and Cultural Resources within the Project's Direct APE

Resource Number	Resource Type	Recommended NRHP Status
48LN740	Multicomponent site.	Previously determined NRHP eligible (WY SHPO reaffirmed on October 30, 2023, and April 4, 2024)
48LN2697_4	Historic period site: abandoned segment of Union Pacific Cumberland Branch railroad alignment	Entire Cumberland Branch alignment previously determined eligible under Criterion A for its association with the region's historically significant coal mining. This segment is non-contributing due to lack of integrity. WY SHPO gave implied concurrence to this finding on April 4, 2024.
48LN3203	Precontact lithic landscape (Ham's Fork Conglomerate Lithic Landscape)	Previously determined not NRHP eligible (WY SHPO reaffirmed on April 4, 2024)
48LN8953	Historic site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8954	Precontact site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8955	Precontact site	Not NRHP eligible (WY SHPO concurred on April 4, 2024)
48LN8957	Precontact site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8958	Precontact site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8959	Multicomponent site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8966	Precontact site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8968	Precontact site	Not NRHP eligible (WY SHPO concurred on January 16, 2025)
48LN8971	Precontact site	Not NRHP eligible (WY SHPO concurred on April 4, 2024)
48LN8972	Multicomponent site	Not NRHP eligible
48LN8975	Precontact site	Not NRHP eligible (WY SHPO concurred on April 4, 2024)
48LN8976	Multicomponent site	Not NRHP eligible (WY SHPO concurred on April 4, 2024)
IR_WY_2024_980	Historic isolate	Not NRHP eligible
IR_WY_2024_981	Historic isolate	Not NRHP eligible
IR_WY_2024_982	Historic isolate	Not NRHP eligible
IR_WY_2024_983	Multicomponent isolate	Not NRHP eligible
IR_WY_2024_984	Historic isolate	Not NRHP eligible

Resource Number	Resource Type	Recommended NRHP Status
IR_WY_2024_985	Historic isolate	Not NRHP eligible
IR_WY_2024_986	Historic isolate	Not NRHP eligible
IR_WY_2024_987	Historic isolate	Not NRHP eligible
IR_WY_2024_988	Historic isolate	Not NRHP eligible
IR_WY_2024_989	Precontact isolate	Not NRHP eligible
IR_WY_2024_990	Historic isolate	Not NRHP eligible
IR_WY_2024_991	Historic isolate	Not NRHP eligible
IR_WY_2024_992	Historic isolate	Not NRHP eligible
IR_WY_2024_993	Historic isolate	Not NRHP eligible
IR_WY_2024_994	Historic isolate	Not NRHP eligible
IR_WY_2024_995	Precontact isolate	Not NRHP eligible
IR_WY_2024_996	Precontact isolate	Not NRHP eligible
IR_WY_2024_997	Multicomponent isolate	Not NRHP eligible
IR_WY_2024_998	Precontact isolate	Not NRHP eligible
IR_WY_2024_999	Precontact isolate	Not NRHP eligible
IR_WY_2024_1000	Historic isolate	Not NRHP eligible
IR_WY_2024_1001	Precontact isolate	Not NRHP eligible
IR_WY_2024_1002	Precontact isolate	Not NRHP eligible
IR_WY_2024_1003	Precontact isolate	Not NRHP eligible
IR_WY_2024_1004	Precontact isolate	Not NRHP eligible
IR_WY_2024_1005	Precontact isolate	Not NRHP eligible

Indirect APE

The visual effects assessment identified seven archaeological sites within 5 miles of the Kemmerer Unit 1 preliminary activity direct APE that could potentially be visually impacted by the Project. The sites have previously been determined eligible for the NRHP by WY SHPO. The settings of these cultural resources contribute to the WY SHPO's determination that they are NRHP eligible. Table 3.3.2-2 lists the resources and indicates the distance between the resource and planned buildings at the south (Kemmerer Training Center) and north (Reactor Fabrication Building) ends of the Project area.

Table 3.3.2-2 Visually Sensitive Historic Properties Visible within a 5-Mile Radius of the Preliminary Activity Direct APE

Resource Number	Description	Estimated Distance to Resource Centroid	
		From Kemmerer Training Center	From Reactor Fabrication Building
48LN317	Precontact Rock Art and Camp	3.1 miles	3.4 miles
48LN1272	Glencoe Mine	1.6 miles	1.1 miles

Resource Number	Description	Estimated Distance to Resource Centroid	
		From Kemmerer Training Center	From Reactor Fabrication Building
48LN1273	Lincoln Start Mine	1.8 miles	2.0 miles
48LN2739_1	Kemmerer to Cumberland Highway Segment 1	4.8 miles	5.4 miles
48LN2739_2	Kemmerer to Cumberland Highway Segment 2	3.8 miles	4.4 miles
48LN4011/ 48LN4428*	Precontact Artifact Scatter and Historic Glencoe Townsite	0.9 miles	0.7 miles
48LN4026	Blazon Railroad Spur	1.8 miles	1.5 miles
48LN4428*	Historic Glencoe Townsite	0.8 miles	0.8 miles

*The contributing portion of 48LN4011 was re-recorded in 2006 as 48LN4428.

3.3.2.2 Environmental Impacts Related to Historic and Cultural Resources

Preliminary activities would entail ground disturbance in the direct APE. Aside from Site 48LN740, the direct APE contains no historic properties (i.e., no properties eligible for the NRHP), so the preliminary activities would have no effect on them.

Preliminary activities would not directly affect any contributing portion of Site 48LN740. Temporary parking is proposed to be established along the perimeter of the site but would not intrude into the contributing portion of the site. As noted above, WY SHPO regards the best site boundary as that amalgamating data from several previous studies of the site (Page and Kelley 2024:Figure 54; Shimek et al. 2024). This boundary extends up to approximately 90 feet east of the boundary mapped by Tetra Tech in 2022. It has been concluded that the portion of the amalgamated boundary within the direct APE is non-contributing to the NRHP eligibility of the site (Currit 2025). Consequently, the construction of a limited number of parking spaces in what is regarded as the eastern non-contributing portion of the site would have no adverse effect on Site 48LN740. An archaeologist would monitor preliminary activities to ensure that contributing portions of Site 48LN740 are avoided. An Archaeological Monitoring Plan and Inadvertent Discovery Plan would be developed and submitted to the consulting parties, including the WY SHPO and Tribal Nations. Although near to the structures planned for erection during the preliminary activity, the undertaking would have no visual effects on Site 48LN740 since integrity of setting is not a key characteristic of the site. Vibration from construction activities would likewise have a negligible impact on the site because it consists only of surface and possibly subsurface archaeological deposits and does not include any architectural elements that might be adversely affected by construction vibration.

BLM *Manual 8431 – Visual Resource Contrast Rating* (BLM 1986) was used as the methodology and guidelines to complete the visual impact assessment for visually sensitive cultural resource sites within the Project indirect APE (Karpinski and Karpinski 2024b). Results are shown in Table 3.3.2-3. One historic property, Site 48LN317, could not be accessed, and no analysis could be completed. Site 48LN317 is, however, over 3 miles away from the Project. The analysis indicates that preliminary activities would have no effect on the remaining six historic properties, and the impact of preliminary activities would be negligible.

Table 3.3.2-3 Contrast Analysis of Visually Sensitive Historic Properties within a 5-Mile Radius of the Preliminary Activity Direct APE

Resource No.	Description	Degree of Visual Change	Integrity of Setting	Effect Recommendation
48LN317	Precontact Rock Art and Camp	N/A – No Access	Undetermined	Not Evaluated
48LN1272	Glencoe Mine	Strong	Low – Site Altered	No Effect
48LN1273	Lincoln Star Mine	Not Intervisible	N/A	No Effect
48LN2739_1	Kemmerer to Cumberland Highway Segment 1	Weak	High	No Effect
48LN4011/ 48LN4428	Historic Glencoe Townsite	Weak (lower elevation)/Strong (higher elevation)	Low – Site Altered	No Effect
48LN4026	Blazon Railroad Spur	Weak	High	No Effect

3.3.2.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Ongoing land use and existing activities (e.g., grazing) would likely continue. Archaeological sites and IRs within the direct APE would remain undisturbed and subject only to natural site formation processes. There would be no impacts to cultural or historic resources. No potential visual intrusions would occur to historic and cultural resources that are visual receptors in the indirect APE, and there would be no impacts to those resources.

3.3.2.4 Cumulative Impacts

Section 2.4 enumerates various past, present, and reasonably foreseeable future projects that might combine with the preliminary activities to have a cumulative effect on cultural resources. Of the enumerated projects, three warrant further consideration for their potential cumulative effects on cultural resources because they are in proximity to the NRHP-eligible Site 48LN740. These are the WYDOT Wildlife Crossing Along US-189 project, the TFF project, and the NRC's EIS's Proposed Action for Kemmerer Unit 1.

In the vicinity of the Project area, WYDOT's wildlife crossing project is expected to erect a high barrier fence to prevent wildlife from entering the US-189 right-of-way (ROW) and causing hazards to vehicles traveling the highway. The high barrier fence would replace the existing fence that lines the edge of the ROW, including that within Site 48LN740. The WY SHPO recently determined that the portion of the site within the highway ROW was non-contributing to the site's NRHP eligibility, and as replacement fence installation would occur within the ROW, there would be no effect from the Project. Consequently, there would be no cumulative effect on cultural resources from the preliminary activities.

An EA of the TFF project determined that it would have no effect on cultural resources in its direct APE and a negligible cumulative impact on visually affected resources when the buildout of the TFF was

considered. The TFF supplemental analysis and existing road work would complete a separate Section 106 NHPA consultation process and make a determination of effect.

The buildout of the NRC EIS's Proposed Action for the Kemmerer Unit 1 would largely take place within the direct APE for the preliminary activities. The NRC is currently analyzing this proposal as part of development of an EIS for the construction of Kemmerer Unit 1. The draft EIS is scheduled for release in July 2025 (NRC 2024), and no determination has been made about how any historic properties within the site would be treated.

3.3.3 Hydrology

3.3.3.1 Affected Environment

This section considers effects of the preliminary activities on surface and groundwater hydrology resources. The surface and groundwater hydrology resources relevant to the analysis of the preliminary activities are identical to those hydrology resources assessed for the nearby TFF—North Fork Little Muddy Creek and the area classified as a major aquitard; therefore, this EA incorporates by reference Section 3.3.3.1 of the TFF EA (DOE 2024a).

3.3.3.2 Environmental Impacts Related to Hydrology

Groundwater

Excavation shafts installed during preliminary activities would be built in an area designated by the Wyoming Water Development Commission (WWDC) as a major aquitard, so potable groundwater does not exist at the site in the depths planned for excavation. Additionally, the site is not near any sole source aquifers. Excavations would have some measure of groundwater ingress. Water would be removed with temporary submersible pumps and discharge filters. Hydrologic impacts resulting from the dewatering due to associated excavation activities are projected to be short-term and minor with groundwater conditions returning to pre-existing conditions. The dewatering estimate for preliminary activities is approximately 50 gpm. Dewatered groundwater would be re-used for dust suppression or soil compaction as available. North Fork Little Muddy Creek has been observed to be a losing stream, so it is anticipated that the groundwater regime would be resilient to the Project's level of groundwater disturbance. Impacts resulting from the hydrologic alteration of groundwater for the preliminary activities would be short-term and minor, and groundwater would return to pre-existing conditions.

Surface Water

Stormwater discharge into North Fork Little Muddy Creek would be limited to the NI stormwater pond used for the dewatering process. The NI pond as well as the EI pond and southern shared pond would all be less than 20 acre-feet in capacity and, as such, permitted by the SEO Surface Water Permits for stormwater discharge into North Fork Little Muddy Creek. Anticipated preliminary activities that may affect surface water hydrology at the site such as clearing and grubbing, dewatering, grading, excavating, and stockpiling soils would be mitigated by actions including berms, ripraps, sedimentation filters, and detention ponds all in accordance with the SWPPP, submitted to WDEQ in November 2024.

Examples of BMPs described in the SWPPP include vegetation preservation, surface roughening, and dust control for erosion prevention; straw bales, perimeter silt fencing, and sediment ponds for sedimentation control; and settling ponds or tanks as needed for groundwater control from construction site dewatering. During construction, stormwater and groundwater would be held in a retention pond for

sediment to settle prior to discharge. Sheet flow drainage patterns to the west would discharge into an unnamed tributary west of the construction site, while to the east would discharge toward North Fork Little Muddy Creek.

Impacts resulting from the hydrologic alteration of surface water during preliminary activities would be short-term and minor. Impacts associated with operation of the RFB and KTC would be assessed by the NRC's EIS.

3.3.3.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Existing stormwater runoff patterns and groundwater would remain in place uninterrupted; therefore, impacts would be negligible.

3.3.3.4 Cumulative Impacts

The nearby existing Naughton Power Plant as well as the TFF have both been considered for their potential cumulative impacts. The Naughton Power Plant obtains water from nearby upstream water sources (Viva Naughton Reservoir through an intake structure at Hams Fork) and is currently the main source of water flow into North Fork Little Muddy Creek via a discharge from the plant's WYPDES permit.

The dewatering proposed for preliminary activities would impact the same aquitard as the proposed TFF dewatering. However, the timing would be staggered and not occur at the same time as the proposed TFF dewatering. Dewatering activities for preliminary activities are expected to cause a short-term drawdown adjacent to North Fork Little Muddy Creek. The effects of dewatering activities at TFF are expected to be short-term, and the groundwater regime is expected to recover prior to dewatering activities for Kemmerer Unit 1. The site rests upon the Hilliard Shale, which is not an aquifer, and other projects in the area are unlikely to use groundwater. Therefore, long-term cumulative impacts to groundwater are anticipated to be minor.

3.3.4 Socioeconomics

This section considers effects of the Proposed Action on socioeconomic resources, and information provided herein was obtained from the Socioeconomic Report (Appendix B).

3.3.4.1 Affected Environment

To predict the residential distribution of the in-migrating preliminary activity workforce, DOE's assessment, based on TerraPowers' analysis, used the availability of temporary and permanent housing in a "Socioeconomic Analysis Area." Based on the housing analysis presented in Section 3.3.4.2, it was determined that most in-migrating employees would live in Lincoln, Uinta, or Sweetwater Counties. The municipalities in the southern half of Lincoln County, all of Uinta County, and the western half of Sweetwater County form the area of impact (hereafter known as the Socioeconomic Analysis Area). They are the municipalities within daily driving distance of the Project area. The largest cities in each of these counties are Kemmerer/Diamondville (Lincoln County), Evanston (Uinta County), and Green River and Rock Springs (Sweetwater County). Figure 3.3.4-1 illustrates the Socioeconomic Analysis Area.

Population

Table 3.3.4-1 presents the U.S. Census Bureau's (USCB) populations and estimates for the Socioeconomic Analysis Area and its municipalities. The populations of most of the municipalities within the Socioeconomic Analysis Area decreased from 2010 to 2022. The Socioeconomic Analysis Area population decreased by -0.2 percent. Table 3.3.4-2 presents the Wyoming Economic Analysis Division's (WEAD) population projections for the Socioeconomic Analysis Area and its municipalities. The Socioeconomic Analysis Area population is projected to slowly decrease from 2020 to 2040.

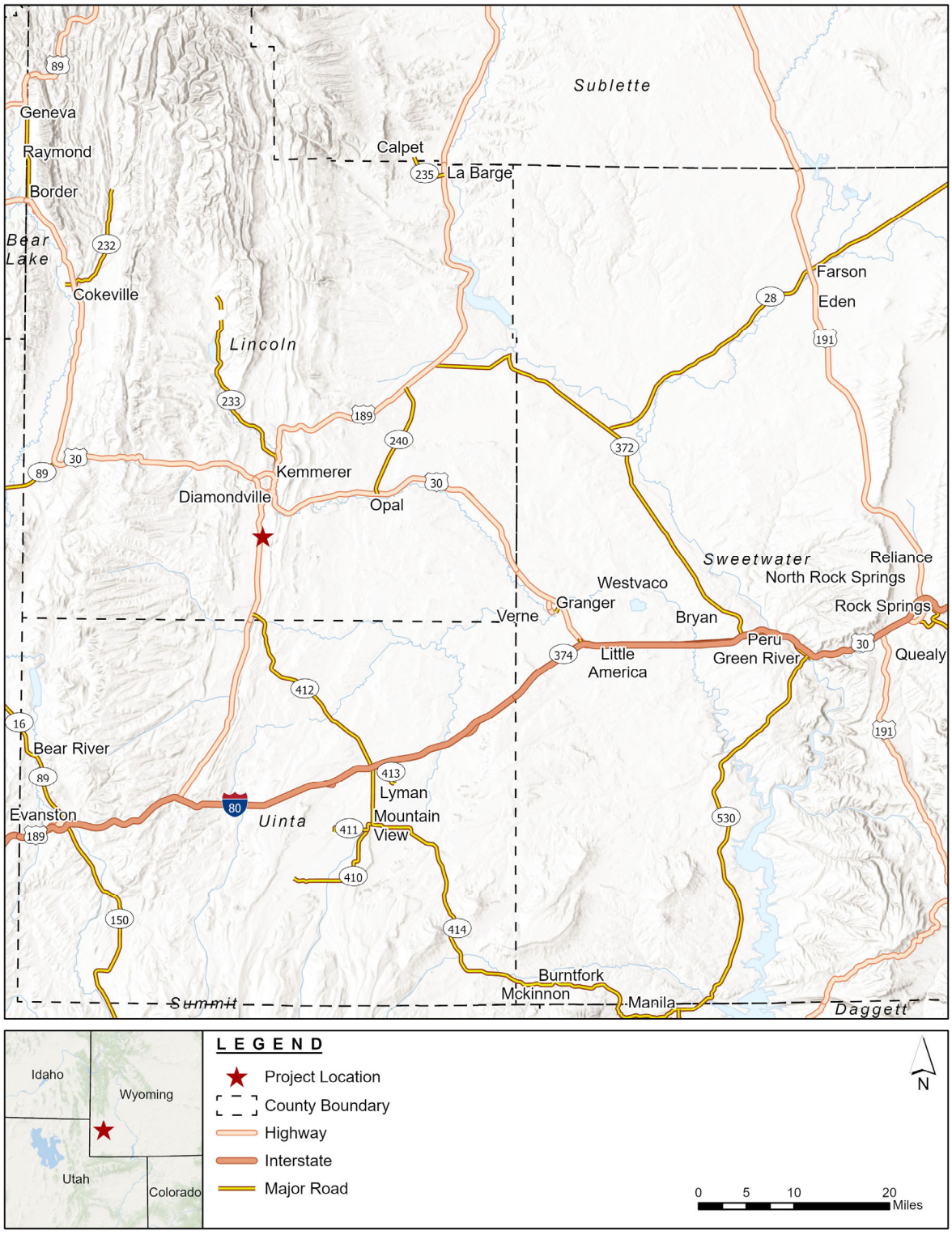

Figure 3.3.4-1 Preliminary Activities Study Area

Table 3.3.4-1 Historical Population

Geography	2010 USCB Decennial Census	2020 USCB Decennial Census	2022 USCB Census ACS 5-Year Estimate	2010-2022 Average Annual Percent Growth
Wyoming	**563,626**	**576,851**	**577,929**	**0.2%**
Lincoln County	**18,106**	**19,581**	**19,794**	**0.7%**
Cokeville*	535	502	423	-1.9%
Diamondville*	737	520	700	-0.4%
Kemmerer*	2,656	2,415	2,640	-0.1%
LaBarge*	551	394	259	-6.1%
Uinta County	**21,118**	**20,450**	**20,546**	**-0.2%**
Bear River	518	522	873	4.4%
Evanston	12,359	11,747	11,801	-0.4%
Lyman	2,115	2,135	1,736	-1.6%
Mountain View	1,286	1,278	1,114	-1.2%
Sweetwater County	**43,806**	**42,272**	**42,079**	**-0.3%**
Green River*	12,515	11,825	11,772	-0.5%
Rock Springs*	23,036	23,526	23,361	0.1%
Socioeconomic Analysis Area Total	**61,148**	**59,632**	**59,701**	**-0.2%**

Sources: USCB 2010, 2020, and 2022a

*Lincoln and Sweetwater County municipalities within daily commuting distance and with populations over 250.

Table 3.3.4-2 Population Forecasts

Geography	USCB Decennial Census 2010	USCB Estimate 2018	Average Annual Percent Growth 2010–2018	Forecast 2020	Average Annual Percent Growth 2010-2020	Forecast 2030	Average Annual Percent Growth 2020–2030	Forecast 2040	Average Annual Percent Growth 2030– 2040
WYOMING	**563,626**	**577,737**	**0.31%**	**579,280**	**0.27%**	**597,260**	**0.31%**	**614,820**	**0.29%**
Lincoln County	**18,106**	**19,434**	**0.89%**	**19,760**	**0.88%**	**21,550**	**0.87%**	**22,490**	**0.43%**
Cokeville	535	548	0.30%	572	0.67%	624	0.87%	651	0.43%
Diamondville	737	754	0.29%	788	0.67%	859	0.87%	897	0.43%
Kemmerer	2,656	2,734	0.36%	2,852	0.71%	3,110	0.87%	3,246	0.43%
La Barge	551	561	0.23%	586	0.61%	639	0.87%	667	0.43%
Uinta County	**21,118**	**20,299**	**-0.49%**	**20,230**	**-0.43%**	**19,710**	**-0.26%**	**19,790**	**0.04%**
Bear River	518	513	-0.12%	510	-0.15%	497	-0.26%	499	0.04%
Evanston	12,359	11,704	-0.68%	11,736	-0.52%	11,435	-0.26%	11,481	0.04%
Lyman	2,115	2,065	-0.30%	2,038	-0.37%	1,986	-0.26%	1,994	0.04%
Mountain View	1,286	1,240	-0.45%	1,247	-0.31%	1,215	-0.26%	1,220	0.04%
Sweetwater County	**43,806**	**43,051**	**-0.22%**	**42,640**	**-0.27%**	**41,390**	**-0.30%**	**41,780**	**0.09%**
Green River	12,515	11,978	-0.55%	11,888	-0.51%	11,540	-0.30%	11,648	0.09%
Rock Springs	23,036	23,082	0.02%	22,817	-0.10%	22,148	-0.30%	22,357	0.09%
Socioeconomic Analysis Area	**61,148**	**59,956**	**-0.25%**	**59,732**	**-0.23%**	**58,629**	**-0.19%**	**59,255**	**0.11%**

Source: WEAD 2019

Notes:

- 2010 state, county, and municipality populations are 2010 Decennial Census counts.
- 2018 populations are U.S. Census Bureau estimates.
- 2020 to 2040 state and county population forecasts were developed by the state, based on trends in area demographic and economic variables.
- Socioeconomic Analysis Area population includes Lincoln and Sweetwater County municipality populations within daily commuting distance plus total Uinta County population.

Economy

The Bureau of Labor Statistics (BLS) reports labor force and employment data at the county level. In 2023, the Socioeconomic Analysis Area counties' labor force totaled 39,140 persons (Lincoln County—9,793, Uinta County—9,096, and Sweetwater County—20,251), representing about 13.3 percent of the total Wyoming labor force (BLS 2024). Between 2013 and 2023, the Socioeconomic Analysis Area labor force decreased at an average annual rate of -0.6 percent, while the state's labor force decreased at an average annual rate of -0.2 percent. In 2023, 1,248 persons in the Socioeconomic Analysis Area were unemployed, resulting in an unemployment rate of 3.2 percent. The 2023 unemployment rates in Lincoln County, Uinta County, Sweetwater County, and Wyoming were 2.9 percent, 3.2 percent, and 3.3 percent, and 2.9 percent, respectively.

The Bureau of Economic Analysis (BEA) reports employment data by industry (as defined by the North American Industrial Classification System [NAICS]). In 2022, local government provided 13.4 percent of jobs in the Socioeconomic Analysis Area, while retail trade provided 11 percent (BEA 2023a). Construction and mining, quarrying, and oil and gas extraction provided approximately 9.4 and 8.6 percent of jobs, respectively. In 2022, there were 4,875 construction jobs in the Socioeconomic Analysis Area (BEA 2023a).

The preliminary activity workforce would resemble those with experience in heavy and civil engineering construction (construction workers) and nuclear electric power generation (operations workers) for activities in the RFB and KTC. In its Quarterly Census of Employment and Wages, the BLS collects employment and wage data by NAICS industrial sector. In 2023, annual average wages in Heavy and Civil Engineering Construction were $63,046 in Lincoln County, $84,974 in Uinta County, and $69,673 in Sweetwater County, compared to $79,772 in Wyoming and $90,726 in the U.S (BLS 2023). Also, annual average wages in nuclear electric power generation were $160,830 in the U.S. There are no existing nuclear electric power generation facilities in Wyoming (BLS 2023).

Personal income provides a useful means for comparing worker wages in an industry to a county's total personal income. In 2022, Lincoln, Uinta, and Sweetwater Counties' total annual personal incomes were $1,305,617,000, $927,386,000, and $2,413,486,000, respectively (BEA 2023b).

Housing

In 2022, there were 1,237 vacant housing units in the Socioeconomic Analysis Area (Kemmerer, Diamondville, Uinta County, Green River, and Rock Springs). Of these units, 998 were for rent, and 239 were for sale (USCB 2020b). In 2022, there were 313 hotel or motel rooms in the Socioeconomic Analysis Area municipalities in Lincoln County, 1,036 hotel or motel rooms in Uinta County, and 1,960 hotel or motel rooms in the Socioeconomic Analysis Area municipalities in Sweetwater County (STR 2023a). During the month of July[3], when the hotel/motel occupancy rate is highest (67.3 percent) (STR 2023b), the corresponding vacancy rate of 32.7 percent indicates that 1,082 rooms would potentially be available for the Project workforce.

There are an estimated 230 recreational vehicle (RV) sites within commuting distance of the Project area in Lincoln County, 199 RV sites in Uinta County, and 1,535 RV sites in western Sweetwater County (Gunter 2022, Wright 2022, Braband 2022, Julian 2022, BLM Undated a, Recreation.gov 2022a, BLM Undated b, Recreation.gov 2022b, RV Life 2022, LA 2024, and RV Life 2024). Applying the same

[3] Smith Travel Research (STR) data indicate that during the month of September the occupancy rate drops to 60.3 percent. To be conservative, however, TerraPower has opted to use the 67.3 percent occupancy rate from STR's July data.

vacancy rate as that of the hotels/motels (32.7 percent) to the number of RV sites in the Socioeconomic Analysis Area (1,964) indicates that 642 sites would potentially be available for the Project workforce.

City officials in Kemmerer have indicated that there are a number of new housing projects being proposed in Kemmerer, Diamondville, and Evanston that would provide additional housing for workers during the preliminary activity action of the Project. Based on recent communications, these developments would provide about 548 units by 2026 (Coyle 2024, Allen 2024, Braband 2024, Anderson 2024). TerraPower conservatively estimates that about half of the new housing units would be available during the Proposed Action timeframe (274 units).

Including the vacant rental and for sale units, new housing available by 2026, RV park sites, and hotel and motel rooms, a total of 3,235 housing units would be available to the Project.

Local Taxes

There are no individual or corporate income taxes in Wyoming (W.S. 39-12-101). Most local government revenue is generated by sales and use taxes and property taxes (WLSO 2022a).

Sales and Use Taxes

Wyoming collects a 4 percent sales and use tax. Thirty-one percent of the tax is returned to the county and municipalities where it was collected. Lincoln, Uinta, and Sweetwater Counties collect a general-purpose county sales and use tax of 1 percent, in addition to the state's 4 percent, for a total of 5 percent (WDOR 2022a). In FY 2021, total sales and use tax collections in Lincoln, Uinta, and Sweetwater Counties were $26,355,168, $22,474,796, and $68,456,666, respectively (WEAD 2021). In Kemmerer, FY 2021 sales and use taxes were the largest source of revenues at $1,689,508 or 42 percent of total revenues (Kemmerer 2021).

Impact Assistance Payment Program

Wyoming statutes in Title 35, Chapter 12, provide for financial assistance for local governments that host major construction projects within their boundaries. This is administered through the WDEQ's Industrial Siting Division. The Division's Wyoming Industrial Siting Council (WISC) oversees the provision of economic impact assistance payments that are designed to assist local governments in mitigating construction project impacts to their community resources.

With input from affected counties and their municipalities, the WISC determines the size of an impact assistance payment. House Bill 47 defines the maximum impact assistance payment amount as a percentage of Project materials costs as follows (WLSO 2022b):

- For industrial facilities with total estimated materials costs of $350,000,000 or less, the maximum allowable percentage is 2.25 percent, except that the Council may increase the maximum allowable percentage to 2.76 percent if the Council specifically finds that 2.25 percent is insufficient to mitigate the identified impacts.
- For industrial facilities with total estimated materials costs greater than $350,000,000 but less than $850,000,000, the maximum allowable percentage is 2 percent.
- For industrial facilities with total estimated materials costs of $850,000,000 or more, the maximum allowable percentage is 1.5 percent.

None of the maximum payments exceed 2.76 percent of a construction project's total estimated material costs. The amount, 2.76 percent, represents the state's share of the 4 percent sales and use taxes generated by the Project (69 percent of 4 percent is 2.76 percent).

The state returns part or all of its share of the sales and use taxes generated by the Project to the communities that are most impacted by the Project (WDOR 2022b, and WDEQ Rules, Chapter 1).

Property Taxes

Property taxing jurisdictions include the state, counties, cities, schools, and special districts (WTA 2021). Wyoming no longer levies property taxes for state operations but does levy a property tax to fund the state's School Foundation Program, one of the state's two education equalization programs (WLSO 2022a).

TerraPower has acquired about 334 acres of land for the Project (parcel #20161910002800). In 2021, the total levy for this parcel was 65.13 mills, representing eight taxing jurisdictions. Property taxes are expressed as a mill levy, which is one dollar per $1,000 of assessed value. The Lincoln County School District 1 (LCSD1) levy represented about 71 percent of the total mill levy. The Lincoln County levy represented about 18 percent of the total mill levy.

The LCSD1 would be the district hosting the Project and many of the Project workforce children as its boundaries encompass most of Kemmerer and Diamondville. The district received a total of $14,115,177 in operating revenues in 2020–2021 (WDOE 2021). Local revenues, at $10,748,651, represented the largest source of 2020–2021 total operating revenues (WDOE 2021). Uinta County School District 1 (UCSD1) is the district that includes Evanston and its outlying areas. It would be the district most likely to host most Project workforce children. The district received a total of $48,781,410 in operating revenues in 2020-2021 (WDOE 2021). State revenues, at $34,227,813, represented the largest source of 2020–2021 total operating revenues (WDOE 2021). Local revenues represented the second largest source at $6,711,417 (WDOE 2021). Wyoming's K–12 education system is primarily funded by state and local property taxes. In the 2021–2022 funding year, LCSD1 and UCSD1 were both dependent on the state to supplement their local revenues to meet their guarantees (WDOE 2023).

Lincoln County, the county that would host the Project, received property tax payments and payments in lieu of taxes totaling $8,867,143, in FY 2021. These payments represented the largest sources of revenue for the county at 32.4 percent of total revenues (Lincoln County 2021).

Recreation

Major recreation and tourism opportunities within the 10-mile vicinity of the Project area are listed below. There are no national parks, state parks, or wildlife habitat management areas within a 10-mile radius of the Project area. There are, however, numerous public lands and one hunter management area (HMA) that can be used for hunting (see below).

Fossil Butte National Monument and Visitor Center is a national monument run by the National Park Service where visitors can view fossil exhibits, engage in summer paleontology programs, hike, and drive scenic byways (NPS 2020). The Monument does not have a maximum capacity for visitors (Collins 2022).

JC Penney Historic District National Historic Landmark is located in downtown Kemmerer and is composed of several properties, including the Golden Rule Store (the first in the J.C. Penney department store chain) and the J.C. Penney's house (WSHPO 2022). The district is a National Historic Landmark (NPS 2022). The Museum does not track visitor numbers, but the summer months are busiest (Slovernick 2022).

Fossil Country Frontier Museum is located in downtown Kemmerer and features information and artifacts about the area's history (FBPB 2021). The museum does not currently track visitor numbers, and there is no stated maximum capacity (Picerno 2022).

Fossil Island Golf Club is a public nine-hole golf course owned by the City of Kemmerer (FIGC Undated). The club has a maximum daily capacity of about 200 golfers. During their busiest days in the summer (usually weekends), the club can approach maximum capacity (Bergman 2022).

Herschler Triangle Park, named after former Wyoming legislator, governor, and Kemmerer resident Edgar Herschler (WSHS Undated) is situated near Kemmerer's historic district. It is the location of the annual Oyster Ridge Music Festival (see below) and other city-sponsored events (Kemmerer Undated). There is no stated maximum capacity for this park.

Oyster Ridge Music Festival is an annual 2-day outdoor music concert that takes place in Herschler Triangle Park on the last weekend in July. Attendance exceeded 4,000 per day in 2021 (Oystergrass 2022).

Local Hunting and Fishing Locations within 10 miles of the site include the Kemmerer Community Pond, Diamondville Community Pond, and informal locations along Hams Fork (WGFD 2022). There are no boat ramps at the ponds or on the part of Hams Fork that is within this area.

Hunting is permitted on most public lands, as long as federal or state agency regulations are observed (WGFD 2023c). Within 10 miles of the Project area, most public land is owned by the state and the BLM. Hunting is also permitted in one HMA (managed by the WGFD), the Bear River Divide HMA (WGFD 2023d). The WGFD issues permission slips to hunt the Bear River Divide HMA, and all hunters must obey the rules of the private landowners whose land is within HMA boundaries (WGFD 2023e).

Education

Wyoming's K–12 education system is primarily funded by state and local property taxes. By state law, Wyoming is responsible for maintaining a public education system that is complete and uniform across the state (Wyoming Constitution, Article 7 §§ 1, 9) (Wyoming Legislative Service Office [WLSO] 2022a). To that end, the state generates funding for two education equalization programs: the School Foundation Program and the School Capitalization Construction program.

School Foundation Program

Through the School Foundation Program, the state guarantees that school districts are appropriately funded to meet their operational and instructional obligations each year ("guarantee"). This is accomplished through the transfer of funds between the state and its school districts. The School Foundation Program funding model considers both state and local school district revenues. If a school district's "guarantee" is greater than its local revenues, the state would make up the difference through "entitlement" payments from the School Foundation Program account. If a school district's "guarantee" is less than its local revenues, the state would "recapture" the difference from the school district and deposit it into the School Foundation Program account (WLSO 2022a).

School Capitalization Construction Program

Wyoming is also responsible for constructing and maintaining school district buildings and facilities. The School Facility Commission and the State Construction Department's School Facilities Department oversee this program. School districts can receive funding for major maintenance and capital construction. Major maintenance projects are determined through statutory formula, and capital construction projects are prioritized by the School Facility Commission (WLSO 2022a).

School District Data

Eight school districts serve the Socioeconomic Analysis Area: three in Lincoln County (the southern portion), three in Uinta County, and two in Sweetwater County (the western half). Figure 3.3.4-2 illustrates the names and locations of the school districts.

The LCSD1 is the district containing most of the city of Kemmerer (and the Project area) and that would be receiving the most property tax revenues from the Project. LCSD1 had a total enrollment of 614 students in school year 2023–2024. Combined, the eight Socioeconomic Analysis Area school districts had a total enrollment of 15,208 students for the same year (WDOE 2024a, 2024b). It should be noted that parts of three school districts are outside of the Socioeconomic Analysis Area: Lincoln County School District 2 (LCSD2), Sublette County School District 9 (SuCSD9), and Sweetwater County School District 1 (Figure 3.3.4-2).

The Wyoming School Facilities Commission's 2023 Annual Report suggests that, based on 2022 enrollment data, public schools in the Socioeconomic Analysis Area have a combined excess seating capacity large enough to accommodate 8,443 additional students (WSCD 2023). However, some individual schools in the Socioeconomic Analysis Area are already near or over capacity.

Student Teacher Ratios

School districts in Wyoming are no longer required, by statute, to adhere to specific student-teacher ratios (Green 2022). Student-teacher ratios for the Socioeconomic Analysis Area school districts ranged from 9.7 in SuCSD9 to 14.8 in LCSD2 compared to a statewide average of 12.5 (WDOE 2024a, WDOE 2024b).

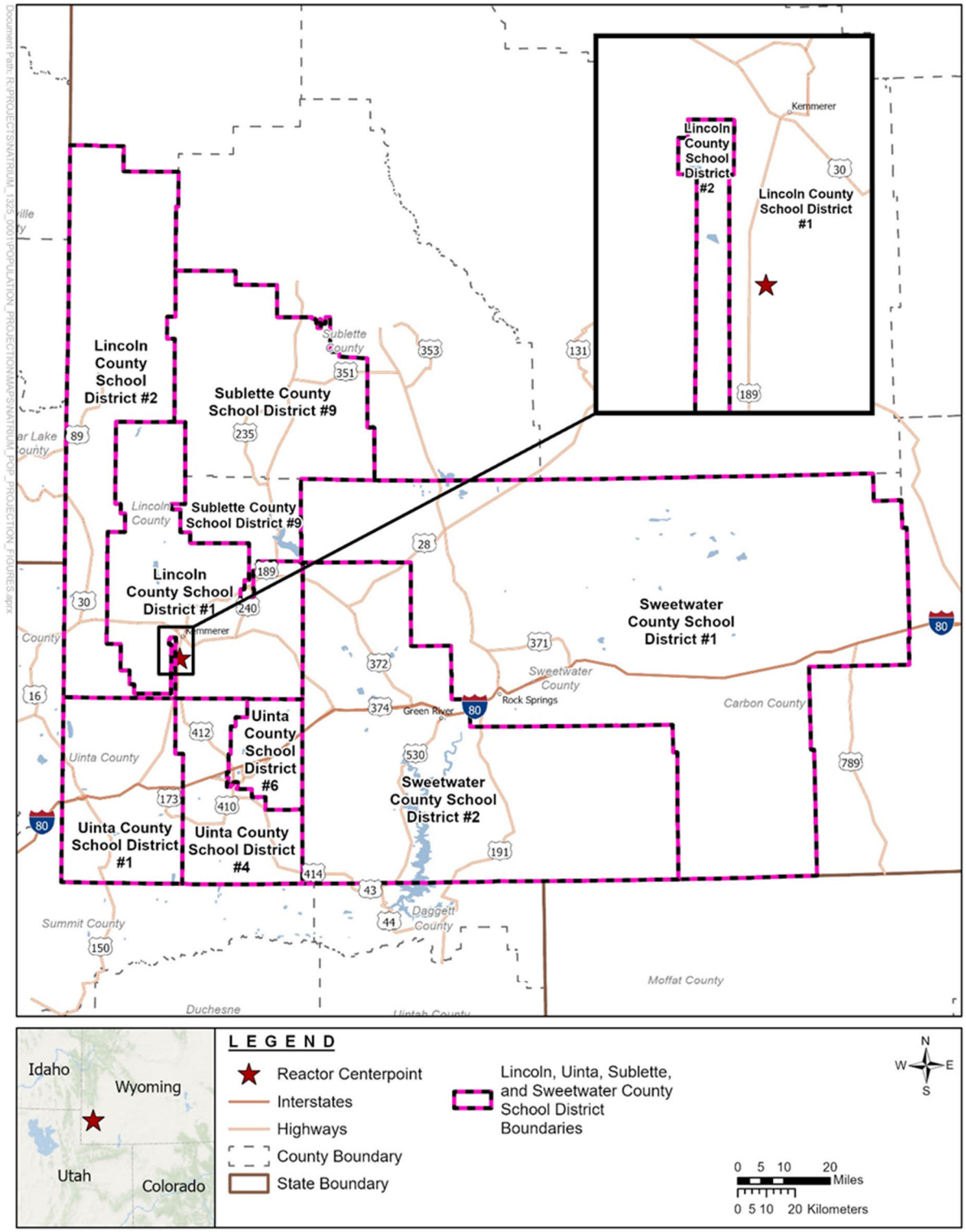

Figure 3.3.4-2 School District Boundaries

3.3.4.2 Environmental Impacts Related to Socioeconomics

The following impact analysis is based on the peak workforce during the 18-month period of preliminary activities. In September 2026, it is estimated that there would be a total of 1,245 workers in the Project area, 1,117 construction workers, and 128 operations workers (Figure 3.3.4-3). It is estimated that there would be 1,061 construction workers (95 percent in-migration) and 128 operations workers (100 percent in-migration), plus an indirect workforce of 363, migrating into the Socioeconomic Analysis Area for a total of 1,553 new residents. Some of these workers would also bring families. More detail about family members is presented below in the Population and Education impact sections. Based on the workforce assumptions and housing availability presented in Appendix B, the following workforce distribution is predicted: 33 percent in Lincoln County, 45 percent in Uinta County, and 22 percent in Sweetwater County. To be conservative, it is assumed that 100 percent of the workforces would reside within the Socioeconomic Analysis Area.

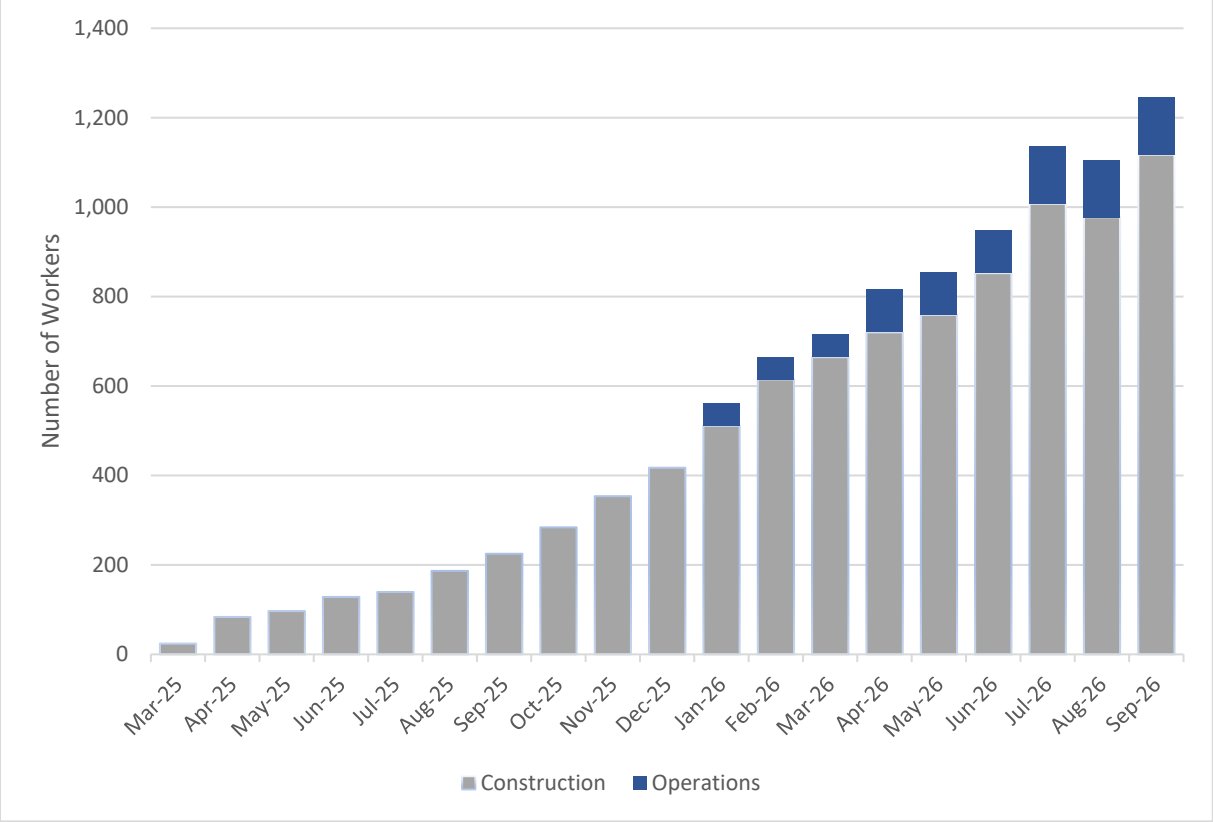

Figure 3.3.4-3 Projected Workforce

Population

The USCB's 2010, 2020, and 2022 Census population data for the Socioeconomic Analysis Area are presented in Table 3.3.4-1. The total Socioeconomic Analysis Area population equated to 59,701 in 2022. Table 3.3.4-2 presents the WEAD's forecasted 2030 population for the Socioeconomic Analysis Area, 58,629.

As stated above, the preliminary activities would attract 1,553 in-migrating workers. This in-migration would result in a 3 percent increase in both the USCB's 2022 Socioeconomic Analysis Area population, found in Table 3.3.4-1, and the WEAD's 2030 Socioeconomic Analysis Area population, found in Table 3.3.4-2.

Approximately 37 percent of construction workers and 80 percent of operations and indirect workers would bring families. In 2021, the average family size in the U.S. was 3.2 people (USCB 2021a). Including in-migrating workers and accompanying family members, the additional population would equate to 3,277 people and represent 5 percent of the USCB's Socioeconomic Analysis Area population in 2022 and 6 percent of the WEAD's projected Socioeconomic Analysis Area population in 2030.

To assess a county-level impact, 3,277 new residents are distributed across the three counties as follows: 33 percent in Lincoln County, 45 percent in Uinta County, and 22 percent in Sweetwater Count. Hence, Lincoln County would experience a population increase of about 1,086 workers and family members, representing a 27 percent increase in its 2022 population. In Uinta County, a population increase of 1,458 would represent a 7 percent increase in its 2022 population. And in Sweetwater County, a population increase of 732 would equate to a 2 percent increase.

Employment

As stated previously, 1,189 preliminary activity workers would be expected to migrate into the Socioeconomic Analysis Area in 2026. Those in-migrants would generate 675 indirect jobs (BEA 2021). It is estimated that 25 percent of the indirect jobs, 312 jobs, would be filled by some of the 1,248 unemployed workers already residing in the Socioeconomic Analysis Area. The remaining 363 jobs would be filled by workers migrating into the Socioeconomic Analysis Area. As such, it is estimated that 1,553 preliminary activities-related direct and indirect workers would migrate into the Socioeconomic Analysis Area (1,189 + 363) and represent a 4.0 percent increase in the Socioeconomic Analysis Area's 2023 labor force of 39,140 (Section 3.3.4.1, Economy). Impacts from preliminary activity workforces to the Socioeconomic Analysis Area's labor force would be minor and beneficial. Impacts from preliminary activities indirect workforce to the Socioeconomic Analysis Area's unemployment would be moderate, short-term, and beneficial, as they would reduce unemployment in the Socioeconomic Analysis Area by 25 percent.

As presented in Section 3.3.4.1, Economy, Lincoln, Uinta, and Sweetwater Counties' total annual personal incomes in 2022, were $1,305,617,000, $927,386, 000, and $2,413,486,000, respectively (BEA 2023b). It is estimated that total Proposed Action period wages would equate to about $55,000,000 in 2026 based on the Socioeconomic Analysis Area's average weekly wages for Nonresidential Structures (Construction) workers and Electric Power Generation, Transmission, and Distribution workers. These wages would represent about 1.2 percent of the total personal incomes of Lincoln, Uinta, and Sweetwater Counties combined, creating a negligible, short-term, and beneficial impact.

The impacts of 363 indirect worker wages on total personal income in the Socioeconomic Analysis Area would also be negligible. Therefore, the impacts of annual wages and salaries from preliminary activities to the Socioeconomic Analysis Area's total personal income would be negligible-to-minor, short-term, and beneficial.

Housing

As presented in Section 3.3.4.1, Housing, there were 3,235 vacant or available housing units in Socioeconomic Analysis Area in 2022. This includes all four types of housing: existing permanent units for sale or rent, RV parks, hotels and motels, and newly constructed housing.

Based on the housing availability analysis presented in Appendix B, 1,553 Project-related workers would occupy about 43 percent of the total number of vacant permanent and available temporary housing units in the Socioeconomic Analysis Area. More specifically, they would occupy 100 percent of the vacant and available housing units in Lincoln and Uinta Counties and 14 percent of the vacant and available housing in Sweetwater County. Consequently, the Project workforces would be distributed across the Socioeconomic Analysis Area, as follows: Lincoln County—33 percent, Uinta County—45 percent, and Sweetwater County—22 percent. Most impacts would be localized to Kemmerer, Diamondville, Evanston, Green River, and Rock Springs. Since 100 percent of vacant and available housing in Lincoln and Uinta Counties would be consumed by the Project, by September 2026, housing prices and rents may increase, as the demand would exceed the supply. Also, a significant amount of new housing would be constructed in Lincoln County, permanently increasing its supply as discussed in Section 3.3.4.4.

Therefore, because all of the vacant and available housing units in Lincoln and Uinta Counties would be consumed by the preliminary activities by September 2026 and new housing would have been constructed in Lincoln County, impacts to those counties would be moderate, short-term, and adverse. In Sweetwater County, impacts would be minor-to-moderate, short-term, and adverse.

Local Taxes

Preliminary activities, purchases, and workforce expenditures would generate several types of local taxes, the most important of which are sales and use taxes and property taxes.

For the peak year sales and use taxes ($3,900,000 in 2026), the portions of the taxes that would reach the Socioeconomic Analysis Area counties and their municipalities would represent about 2 percent of Lincoln, Uinta, and Sweetwater Counties' sales and use tax collections in FY 2021, which totaled $93,612,111 (($3,900,000 x 44.8%[4])/$93,612,111). Impacts to Socioeconomic Analysis Area sales and use tax collections would be minor, short-term, and beneficial.

In 2026, it is estimated that the peak in-migrating workforce would be 1,189. Most, if not all, of these workers and their families are expected to settle in the Socioeconomic Analysis Area. Their retail expenditures (restaurants, hotels, merchant sales, and other items) would yield an increase in sales and use tax revenues. For the peak year, it is estimated that preliminary activity wages to be about $55,000,000. Some percentage of these wages would be spent and taxed within the Socioeconomic Analysis Area, generating sales and use tax revenues for the state and local governments. For example, if workers were to spend 50 percent of their wages in the Socioeconomic Analysis Area, the counties and municipalities would receive about $616,000. This amount would represent less than 1 percent of the Socioeconomic Analysis Area's total sales and use tax revenues in FY 2021 ($55,000,000 x 0.5 x 0.05 x 44.8%)/$93,612,111). Taxable purchases associated with the construction workforces would create negligible beneficial impacts to the Socioeconomic Analysis Area counties and their municipalities.

During the Proposed Action period, TerraPower would pay an estimated total of $4,257,683 in property taxes to local taxing jurisdictions. In 2026, alone, TerraPower would pay $3,073,031. At 46.4 mills, the LCSD1 levy represents about 71 percent of the total mill levy. At 12 mills, the Lincoln County levy represents about 18 percent of the total mill levy. The remaining taxing jurisdictions' mill rates are significantly smaller.

[4] Derivation of 44.8 percent: state portion returned to local jurisdictions is 31 percent of 4 percent = 1.24 percent of the 4 percent tax; county/municipality sales and use tax = 1 percent; adding 1 percent to 1.24 percent = 2.24 percent (total that is returned to local jurisdictions). In sum, a 2.24 percent tax (total amount returned to local jurisdictions) is 44.8 percent of the 5 percent tax.

The LCSD1 would likely receive about 71 percent of the TerraPower tax payment, about $2,189,535 in 2026. When compared to the school district's total local revenues in 2020–2021, $10,748,651 (WDOE 2021), the preliminary activities payment would represent about 20 percent of the school district's total local revenues. Therefore, property tax payments generated by preliminary activities would result in a major beneficial impact to LCSD1 revenues. However, if LCSD1 local revenues were to become greater than its state-determined "guarantee," then the excess funds would be recaptured by the state and redistributed to school districts whose local revenues are less than their guarantees, reducing the impact of the payments to minor, short-term, and beneficial.

Lincoln County would receive about 18 percent of the preliminary activities tax payment, about $566,360. When compared to the county's total property tax levies in 2021, $8,726,261 (WDOR 2022b), the preliminary activities payment would represent about 7 percent. Therefore, the Project's property tax payments would result in a minor beneficial impact to Lincoln County.

Most of the preliminary activity workforce would reside in the area temporarily and likely not pay property taxes. The small number of operations workers employed during the preliminary activities action are likely to settle in Lincoln County in the Kemmerer/Diamondville area. Their property tax payments would be negligible, short-term, and beneficial to their taxing jurisdictions.

Recreation

The influx of workers during preliminary activities would impact the use of recreation opportunities within the Project vicinity in two ways. One set of impacts would be caused by preliminary activity-related population growth in the Kemmerer and Diamondville area. Immigrating workers and family members would increase the use of recreation areas and facilities that cater mostly to residents in the vicinity. The other set of impacts would be caused by preliminary activity workforce use of temporary accommodations in the Project vicinity, preventing use of those accommodations by baseline recreators and tourists.

In September 2026, 33 percent of the in-migrating 3,277 workers and family members, about 1,086 workers and family members, would represent a 27 percent increase in the combined 2022 populations of Kemmerer, Diamondville, Cokeville, and LaBarge. Recreational areas, facilities, and venues used by local residents would be expected to increase. With the exception of the golf club, there are no stated maximum capacities for recreators at the facilities and venues in the vicinity. Estimated population increases likely represent relatively small shares of recreation use in the area. A recent study of Sweetwater County, for example, identified almost 1.2 million visitor nights at local hotels and campgrounds in 2022 (Sweetwater County Travel and Tourism Board 2024). Impacts to those facilities would be minor and long-term.

The Fossil Island Golf Club has a maximum daily capacity of about 200 golfers. During its busiest days in the summer (usually weekends), the club can approach maximum capacity. A 27 percent increase in customers (about 54 golfers) could displace 54 baseline customers during periods of high use, creating a moderate adverse impact. This would only occur during the height of the golf season and likely on the weekends.

The other set of impacts caused by the in-migrating workers are related to the workers' use of the temporary accommodations in the economic region. Tourism destinations and events, such as the Fossil Butte National Monument, JC Penney Museum, the Fossil Country Frontier Museum, and the Oyster Ridge Music Festival, could draw out-of-town tourists who might seek overnight accommodations. Preliminary activity workers staying in temporary housing in Lincoln and Uinta Counties would likely keep those units at or near maximum capacity, especially during the summer months. Out-of-town

visitors and recreators would encounter difficulty in finding available hotels, motels, RV parks, and campgrounds within the vicinity.

The Oyster Ridge Music Festival is an annual 2-day outdoor music concert that takes place in Herschler Triangle Park on the last weekend in July. Attendance exceeded 4,000 each day in 2021. Impacts would occur during the summer months when venues and facilities are busiest. Impacts to these facilities and events would be moderate, short-term, and adverse.

Education

As presented in Section 3.3.4.1, Affected Environment (School District Data), the data suggest that public schools in the Socioeconomic Analysis Area have a combined excess capacity large enough to accommodate 8,443 additional students. Student-teacher ratios for the Socioeconomic Analysis Area school districts ranged from 9.7 in Sublette County School District 9 to 14.8 in LCSD2, all below the state's recommended 16:1.

Based on 2021 Census data for the U.S. and Wyoming, it is assumed that each in-migrating worker with a family would have 0.88 school-age children (USCB 2021b). Therefore, 686 school-age children would accompany an estimated 784 in-migrating workers. This analysis conservatively assumes that all school-age children would attend public schools and reside in one of the 3 counties in the Socioeconomic Analysis Area. Based on the estimated residential distribution of the preliminary activity workforce, 227 workforce children would go to Lincoln County school districts, 305 would go to Uinta County school districts, and 153 would go to Sweetwater County school districts.

Based on these numbers, there appears to be available seating and staffing across the Socioeconomic Analysis Area for the children of the preliminary activity workforces. However, it is possible that individual schools at or near capacity could struggle to accommodate preliminary activity workforce children. In those schools, the state's education equalization programs would provide funding for staff and facilities to accommodate the increased enrollments. Therefore, Project-related impacts to education in the Socioeconomic Analysis Area would be negligible and short-term.

3.3.4.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. There would be no impacts on socioeconomic conditions from the Project. Current socioeconomic conditions would persist.

3.3.4.4 Cumulative Impacts

A review of publicly available resources indicates several other projects in the surrounding area that would result in cumulative socioeconomic impacts, chiefly housing impacts. Table 3.3.4-3 presents these projects.

Table 3.3.4-4 presents in-migrating workforce estimates for each project by month, through September 2026. This assessment is based on the most recent publicly available information for each project.

Table 3.3.4-3 Projects Considered in the Socioeconomic Cumulative Impacts Analysis

Project	Project Location (County)	Construction Schedule Overlap	Share of Assumed Housing Need
Preliminary Activities (Pre-Nuclear Construction)	Lincoln	March 2025 to September 2026	100 percent
Sodium Test and Fill Facility	Lincoln	March 2025 to September 2026	100 percent
Naughton Power Plant Conversion	Lincoln	April to June 2026	100 percent
Project West	Sweetwater	March 2025 to September 2026	100 percent
LaBarge Carbon Capture Project	Lincoln, Sweetwater	March 2025 to October 2025	100 percent
Uinta Wind	Uinta	April 2025 to November 2025	100 percent
Dry Creek Trona Mine	Sweetwater	March 2025 to September 2026	100 percent
New Housing Construction in Kemmerer and Diamondville Area	Lincoln	March 2025 to September 2026	100 percent

Sources: ExxonMobil 2020, PacifiCorp 2024, Pacific Soda LLC 2024, Uinta Wind Energy LLC 2021, West Soda LLC 2024

Table 3.3.4-4 Cumulative In-migrating Workforce Estimates

Month/ Year	Preliminary Activity Workforce	TFF	Naughton Power Plant Conversion	Project West Construction	LaBarge Carbon Capture	Uinta Wind	Dry Creek Trona Mine	Total
Mar-25	23	95	0	399	214	0	315	1,046
Apr-25	79	95	0	464	215	84	357	1,294
May-25	92	95	0	516	214	113	595	1,625
Jun-25	122	109	0	526	212	113	1,275	2,357
Jul-25	132	109	0	648	171	113	1,445	2,618
Aug-25	177	109	0	633	7	113	1,972	3,011
Sep-25	214	109	0	812	7	56	2,142	3,340
Oct-25	270	100	0	946	7	56	2,236	3,615
Nov-25	336	100	0	1,091	0	28	2,423	3,978
Dec-25	397	86	0	1,122	0	0	2,321	3,926
Jan-26	535	86	0	1,158	0	0	2,581	4,360
Feb-26	684	76	0	1,103	0	0	2,992	4,805
Mar-26	681	57	0	1,083	0	0	3,315	5,136
Apr-26	779	57	428	1,041	0	0	3,528	5,833
May-26	826	57	428	1,051	0	0	3,570	5,922
Jun-26	905	48	428	896	0	0	3,591	5,868
Jul-26	1,085	43	0	793	0	0	3,570	5,491
Aug-26	1,057	38	0	679	0	0	3,664	5,438
Sep-26	1,190	37	0	560	0	0	3,604	5,391

Sources: ExxonMobil 2020, PacifiCorp 2024, Pacific Soda LLC 2024, Uinta Wind Energy LLC 2021, West Soda LLC, 2024
Note**:** Workforces that would be involved in the housing construction projects are not included in this table as their sizes are currently unknown.

This assessment indicates that there could be a potential housing shortage in the Socioeconomic Analysis Area if all the identified projects were to proceed as assumed for the purposes of this assessment. As stated in Section 3.3.4.1, Housing, 3,235 housing units (including newly constructed units) would be vacant and available to the Project by September 2026. Preliminary activities would use at least 1,385 of those units in September 2026. However, as presented in Table 3.3.4-3, the other projects with proposed construction schedules overlapping the preliminary schedule anticipate needing a total of over 1,000 housing units, starting in March 2025, and more than 4,000 housing units by February 2026. While some workers from the other projects may share housing, it is unlikely that there would be enough vacant and available housing to support all 7 projects during this period. Also, the workforces supporting the new housing construction projects in Lincoln County could intensify these impacts. Therefore, from March 2025 through September 2026, impacts to housing in all three counties of the Socioeconomic Analysis Area would be moderate, short-term, and adverse.

Recognizing the potential for a housing shortage in the Socioeconomic Analysis Area as a result of potential cumulative demand from the projects identified in Table 3.3.4-4 and discussed in this section, as well as uncertainty regarding the numbers of proposed housing units/RV spaces assumed to be available in the future, TerraPower has developed a preliminary Workforce Housing Plan (Plan) to address potential housing supply issues. The Plan has three components. They include:

- Monitoring and adaptive management (TerraPower's preferred component), which includes:
  - Communication between TerraPower and local housing providers to identify the availability of permanent and temporary accommodations.
  - Communication between TerraPower and in-migrating workers to help workers identify potential housing options.
  - Tracking in-migrating worker demographics, including tracking permanent and temporary residential locations and the type of housing used. This includes the documentation of challenges experienced by in-migrating workers seeking accommodations. This information would be maintained in a database and used to identify patterns of use, allowing TerraPower to proactively identify potential shortages.
  - Coordination with other projects in the area in order to adjust the housing plan to accommodate anticipated changes in cumulative housing demand.
- Supplying transportation assistance, such as busing workers from longer distances.
- Addressing temporary worker housing, such as partnering with other local projects to establish and share housing units.

3.3.5 Geological Resources

3.3.5.1 Affected Environment

This section considers effects of the preliminary activities on geological resources. Geological resources for Kemmerer Unit 1 are identical to those assessed for the nearby TFF; therefore, this EA incorporates by reference Section 3.3.5.1 of the TFF EA (DOE 2024a).

3.3.5.2 Environmental Impacts Related to Geological Resources

Geotechnical investigations have been completed throughout the site to provide subsurface data input during the design and construction planning phases.

Excavation in soil would likely be made with conventional earthmoving equipment with cuts in the side slopes made at inclinations with a slope of 2(H):1(V), 2 units horizontal to 1 unit vertical. Excavation would adhere to regulations from the Occupational Safety and Health Administration in accordance with 29 CFR 1926, "Safety and Health Regulations for Construction." Where vertical cuts are required, such as adjacent construction, these cuts are expected to be supported with tie-backed sheet piles or soldier pile lagging walls.

Excavation slopes in overburden soils in the NI and EI areas are required for foundation and underground utility construction. The stability of 2(H):1(V) excavation slopes for utility trenches in the NI and EI areas was evaluated considering the soil conditions in three sub-areas depending on existing ground elevations and considering a maximum trench depth of 19 feet.

Deep excavations are not anticipated in the EI and would be limited to the NI, primarily for the RXB excavation, which is detailed in Section 2.1.4.5. Dewatering would be required for these excavations, as described in Section 3.3.3. Test results from the University of Wyoming show the presence of smectite (swelling clay mineral) at different elevations in the bedrock. The time that excavated rock is left exposed would be minimized to reduce potential swelling of the rock that could result in slaking and sloughing of the excavated rock.

It is anticipated that overburden soils would be excavated from the higher elevation areas, temporarily stockpiled, and then used to raise the grade as required at the site.

Due to the planned construction methods for excavations and the RXB shaft, impacts to groundwater from construction activities are expected to be minor and short-term.

A complete construction stormwater and groundwater removal plan would be created to ensure that erosion is contained, and storm/pumped groundwater is disposed of in accordance with permitted requirements from the Wyoming State Engineer's Office and WYDEQ. Environmental controls would be installed in each segment prior to commencement of any work. Sediment controls would be inspected and maintained monthly and after storm events in accordance with Large and Small Construction General Permit. All sediment controls would be removed upon completion of construction in each segment in accordance with the environmental management plan.

Due to the planned BMPs for erosion and sediment controls, impacts to surface geological resources from construction activities are expected to be minor and short-term.

3.3.5.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Existing geological features would remain in place uninterrupted; therefore, impacts would be negligible.

3.3.5.4 Cumulative Impacts

There are no existing industrial developments in the surrounding area that would be impacted by the proposed ground disturbance. The TFF is the only project with close enough proximity to result in cumulative impacts to the preliminary activities. Construction of the TFF would partially coincide with building activities for the preliminary activities; however, the disturbance for TFF and preliminary activities are expected to be staggered reducing the amount of disturbed ground. Rotary tools used to reduce ground disturbance would also be used. Therefore, the cumulative impacts associated with geological resources are expected to be negligible and short-term.

3.3.6

3.3.6 Infrastructure, Traffic and Transportation

3.3.6.1 Affected Environment

Utilities

A 25 kV electricity distribution line runs adjacent to US-189. Approaching the Kemmerer Unit 1 site from the north, the distribution line is on the west side of US 189 and crosses to the east side of the highway near the intersection with County Road 325 (Skull Point Road). To support the construction of the TFF, Rocky Mountain Power installed an overhead line to deliver power from the existing distribution line near the site entrance. This temporary power supply line was installed to support the TFF and would be part of the existing infrastructure at the time of the preliminary activities.

Installation of a fiber optic communications line and power supply line are also to be completed. Electricity would be supplied by connection to the Rocky Mountain Power electrical distribution line on the west side of US-189. The environmental effects of the TFF permanent power installation is analyzed separately under DOE/EA-2217 and the supplemental analysis. These cables and switches would allow the Project to have redundant feeds in case of failure of any one feed.

There are no pipelines crossing or adjacent to the Kemmerer Unit 1 site. The nearest pipeline is a natural gas pipeline, south of Kemmerer and Diamondville, that traverses the area east to west.

No municipal water or wastewater connections are available at the Kemmerer Unit 1 site. The major public water suppliers and public wastewater treatment facilities are presented in Tables 3.3.6-1 and 3.3.6-2 along with their available excess capacity. The nearest municipal water and wastewater services are found in Kemmerer and Diamondville.

Table 3.3.6-1 Major Public Water Suppliers in Lincoln, Sweetwater, and Uinta Counties, 2022

Public Water Supplier	County	Primary Water Source	Total Capacity (MGD)	Excess Capacity (MGD)
Kemmerer-Diamondville Water and Wastewater Joint Powers Board	Lincoln	Hams Fork River	4.6	3.90
Town of Evanston	Uinta	Bear River and Sulphur Creek Reservoir, plus 5 wells	10	1.50
Green River/Rock Springs/Sweetwater County Joint Powers Water Board	Sweetwater	Green River	32	8.00

Sources: WWDC 2022, Reports 2 and 3
MGD=million gallons per day

Table 3.3.6-2 Major Public Wastewater Treatment Facilities in Lincoln, Sweetwater, and Uinta Counties, 2022

Wastewater Treatment Facility	County	Design Flow (MGD)	Average Daily Flow (MGD)	Excess Capacity (MGD)
Kemmerer-Diamondville Wastewater Treatment Plant[a]	Lincoln	0.8-1.0	0.25-0.5	Less than 0.3-0.75[b]
Evanston Wastewater Treatment Facility[c]	Uinta	2.9	1.37	1.53
Green River Wastewater Treatment Plant[d]	Sweetwater	1.5	1.2	0.3
Rock Springs Water Reclamation Facility[e]	Sweetwater	4.2	2.15	2.05

a. McClarnon 2023
b. Note that the potential also exists for freeing up to 375,000 gpd of existing capacity.
c. WYDEQ 2022a, pg. 4
d. WYDEQ 2022b, pg. 1
e. WYDEQ 2019, pg. 2
MGD=million gallons per day

Traffic and Transportation

There are no public roads, railroads, or navigable waterways within the site. As shown in Figure 2.1-1, the site borders US-189 and an existing rail line. This rail line is the Skull Point Spur of the Cumberland Branch of the Union Pacific Railroad. Plans for the Project do not include use of rail; thus, rail transportation impacts are not analyzed.

The closest airport is the Kemmerer Municipal Airport, a public airport operated by the City of Kemmerer, which is approximately 7.2 miles north of the Project area. The preliminary activities do not include the erection of tall structures, and construction equipment would not extend high enough to pose an air traffic hazard. In accordance with Federal Aviation Administration regulations (14 CFR 77.9), only structures taller than 200 feet or those within 20,000 feet (3.8 miles) of airports are considered for hazards to airspace. Therefore, air transportation impacts are not analyzed.

The transportation route for both commuters and shipments is US-189 which runs adjacent to the site. US-189 is a two-lane rural highway that travels north-south through Lincoln and Uinta Counties. US-189 north of the site and its intersection with US-30 connects the proposed site with the urban and residential areas of Kemmerer and Diamondville. The connection with US-30 is approximately 4.7 miles north of the site. US-30 east provides access to Granger in Sweetwater County and interchanges with I-80 just south of Granger. US-189 intersects with I-80 in Uinta County approximately 30 miles south of the site. West of its interchange with US-189, interchanges along I-80 provide access to Evanston. West of Evanston, I-80 provides access to Salt Lake City and I-15. East of its interchange with US-189, interchanges along I-80 provide access to Lyman, Granger, Green River, and Rock Springs.

WYDOT publishes the Average Annual Daily Traffic (AADT) vehicle counts for various sections of roads in Lincoln and Uinta counties. Table 3.3.6-3 presents 2023 traffic counts for relevant US-189 access points. The site is located on the section of US-189 between the intersection with WY 412 and the intersection with County Road (CR) 304 (from milepost 21.41 to 32.737) denoted by shading in the table.

Table 3.3.6-3 Average Annual Daily Traffic Counts Near the Kemmerer Unit 1 Site

Road Section	AADT
US-30 west of US-189 at Kemmerer	1,531
US-30 east of US-189 junction to WY 240 at Opal	2,075
US-30 East at Granger (WY 374)	1,736
US-189 north of US-30 at Diamondville-Kemmerer	4,322
US-189 at US-30 junction south to CR 304 West to Elkol	1,066
US-189 south of CR 304 to junction with WY 412	1,676
US-189 at Lincoln-Uinta County Line	1,134
US-189 interchange with I-80	1,134
US-189/I-80 at Evanston East interchange	14,794
US-189/I-80 at WY 412 interchange (Carter-Mountain View)	13,488
I-80 at Uinta-Sweetwater County Line	13,836
I-80 at US-30, Granger Junction	14,672
I-80 at US-30, Little America	14,382

Source: WYDOT 2024b

Site Access

The site access is located on US-189, which is operated by WYDOT. WYDOT granted an access permit for the access road to intersect with US-189. The traffic study prepared for the access permit application considered commuters and truck deliveries. The WYDOT-approved US-189 intersection includes a northbound right turn auxiliary lane and a southbound two-way left-turn lane (TWLTL) between the new access road and CR-325. The TWLTL would provide a left-turn lane solution and provide adequate storage for left turns into the site access road (Jorgensen 2024 and WYDOT 2024c).

Fire Protection, Emergency Services, and Medical

Fire protection, emergency services, and medical services would be necessary for the preliminary activities and its workforce. It is expected that these services would be provided from within Lincoln, Sweetwater, and Uinta Counties. The following text describes the available resources for these services within those three counties as it relates to the Project.

Table 3.3.6-4 provides fire protection and emergency medical service (EMS) personnel data for the fire/EMS departments in Lincoln, Sweetwater, and Uinta County. Table 3.3.6-4 also provides approximate ratios of firefighter and EMS staff per service population. Collectively, the three counties have an estimated total of 216 firefighters serving the southern Lincoln County, western Sweetwater County (Granger, Green River, and Rock City), and Uinta County for a level of service (LOS) of 3.6 firefighters per 1,000 people. The corresponding totals for EMS staff are 92 staff and an LOS of 1.5 EMS staff per 1,000 people.

Counties and local governments are the state's "first responders" (WOHS 2019). Every county in the state has an emergency management coordinator (county coordinator) and an emergency operations center, and local emergency managers are responsible for planning and mitigation, preparation for emergencies, and disaster response/recovery (LCOEM Undated a).

In the event of a disaster, the county coordinator manages the county and city response and communicates with the Wyoming Office of Homeland Security (WOHS). Should local governments require assistance, the county coordinator can request additional support from the WOHS. Should federal assistance be required, the WOHS can contact the Federal Emergency Management Agency. In Lincoln County, the coordinator is located at the Lincoln County Office of Emergency Management (LCOEM), a division of the Lincoln County Sheriff's Office (LCOEM Undated a). The LCOEM is currently updating its Emergency Operations Plan (LCOEM Undated b). In Uinta County, the coordinator is located at Uinta County Emergency Management, a part of the Uinta County Emergency Services department (Uinta County Undated).

In 2004, Wyoming passed a bill called the *Wyoming Emergency Response Act* (W.S. 35-9-151). The Act enabled the director of Homeland Security to establish regional emergency response teams. The regional teams are available to supplement local resources when an incident is beyond the first responders' capabilities (W.S. 35-9-155). Lincoln, Uinta, and Sweetwater Counties comprise Region 4. The Region 4 Emergency Response Team is located in Rock Springs. Region 4 has a Regional Hazard Mitigation Plan that provides an analysis of hazard risks in the three-county region and recommends mitigation measures to minimize potential losses from disastrous events (Lincoln County 2022).

South Lincoln Medical Center, Evanston Regional Hospital, and Memorial Hospital of Sweetwater County (MHSC) are the primary hospitals within the three counties. Table 3.3.6-5 presents the patient facilities for the three hospitals. Current occupancy rates for South Lincoln Medical Center, Evanston Regional Hospital, and MHSC are 72, 8, and 16 percent, respectively (WDOH 2024). In addition to the three hospitals, healthcare facilities in the cities of Kemmerer, Green River, Rock Springs, Evanston, and Lyman include 16 facilities, mostly rural or public health facilities.

In 2021, there were 1,043 physicians providing direct patient care in Wyoming. Wyoming's total physician and primary care physicians were lower than the corresponding national averages: 180 total physicians and 65 primary care physicians per 100,000 people in Wyoming compared to national averages of 248 physicians and 94 primary care physicians. Lincoln, Sweetwater, and Uinta counties had an estimated 124, 125, and 105 physicians per 100,000 population, respectively (Dahal and Skillman 2022).

The U.S. Department of Health Resources and Services Administration (HRSA) maintains lists of areas, populations, and facilities that are experiencing shortages of health care services and personnel. The Health Professional Shortage Area (HPSA) list tracks shortages of primary care, dental health, or mental health care providers. The HRSA identified 93 HPSAs in the state of Wyoming in 2023, with 42 HPSAs in primary care, 27 in dental health, and 24 in mental health (HRSA 2023). Three of the HPSAs in Wyoming in 2023 were in Lincoln County (two primary care and one mental health), four were in Sweetwater County (one primary care, one dental health, and two mental health), and three were in Uinta County (two primary care and one mental health) (HRSA 2023).

Table 3.3.6-4 Fire Protection and EMS Personnel, 2021

Department	Service Population[1]	Number of Stations	Number of Firefighters				Number of EMS Staff			
			Career	Volunteer – Paid	Volunteer – Not Paid	Firefighters per 1,000 People	Basic EMTs	Advanced EMTs	Paramedics	LOS per 1,000 People
Lincoln County										
Bear River Fire District/Cokeville FD	850	1	0	0	12	14.1	0	0	0	0
Kemmerer Volunteer FD	5,000	1	0	0	27	5.4	4	2	0	1.2
LaBarge Volunteer FD	402	1	0	0	9	22.4	0	0	0	0
Sweetwater County										
Rock Springs FD	24,000	3	33	0	0	1.4	5	23	5	1.4
Green River FD	12,515	2	3	34	0	3.0	0	0	0	0
Granger Volunteer FD	150	1	0	0	9	60.0	0	0	0	0
Sweetwater County Fire District #1	8,000	2	4	30	0	4.3	7	1	0	1
Uinta County										
Uinta County Fire Protection - Bridger Valley	6000	3	1	34	0	5.8	4	4	0	1.3
Uinta County Fire Protection - Evanston	12,000	6	4	0	50	4.5	25	20	0	3.8
Total[2]	**68,917**	**20**	**45**	**98**	**107**	**3.6**	**45**	**50**	**5**	**1.5**

Sources: USCB 2023c, Valerio 2024, Vilos 2024, Wyoming Department of Fire Prevention and Electrical Safety 2021

Notes: EMS—Emergency Medical Service; EMT—Emergency Medical Technician; FD—Fire Department

[1] The identified service populations are estimates provided by the Wyoming Department of Fire Prevention and Electrical Safety (2021) except LaBarge Volunteer FD service population is sourced from USCB (2023c).

[2] The total numbers of stations, firefighters, and EMS staff that are identified in this row and are used to estimate levels of service exclude private stations.

Table 3.3.6-5 Major Hospitals

Summary Information	South Lincoln Medical Center	Memorial Hospital of Sweetwater County	Evanston Regional Hospital
ICU Inpatient Beds	2	10	6
Total Inpatient Beds	16	99	42
Trauma Type[1]	TRF	ATH	CTH
Number of Providers	22	75	23

Sources: Evanston Regional Hospital 2024, MHSC 2024, SLHD 2024, WDOH 2023, 2024a, 2024b
Notes: ICU – Intensive Care Unit
[1] State standards for trauma care in hospitals are designated according to the capacities at which hospitals are able to care for patients. There are four types of trauma facility:

- RTC – A Regional Trauma Center is a designated facility that has the medical staff and facilities to provide advanced care to trauma patients. A Regional Trauma Center also serves as a referral hospital for ATHs, CTHs, and TRFs.
- ATH – An Area Trauma Hospital is a designated facility that has the facilities and surgical capabilities to provide care for the majority of injured patients. Area Trauma Hospitals may serve as a referral center for CTHs and TRFs. ATHs do not require a neurosurgeon on staff.
- CTH – A Community Trauma Hospital is a designated facility that typically does not have twenty-four (24) hours per day coverage of its emergency department. A CTH will typically have only one (1) surgeon on staff. With these exceptions, these facilities are similar to an ATH and may serve as a referral center for TRFs.
- TRF – A Trauma Receiving Facility is a designated facility that may include a hospital with no surgical coverage, to a small rural clinic. These facilities provide initial resuscitation and stabilization and will, as needed, transfer critically injured patients to a higher level trauma facility (WDOH 2024b).

3.3.6.2 Environmental Impacts Related to Infrastructure, Traffic, and Transportation

Utilities

To support the Proposed Action, connections would be tapped from existing permanent power and fiber optic connections from under HWY 189 to provide the needed power and communications supply for preliminary activities. The power for the KTC permanent operations could alternately come from an existing 25 kV power pole on the east side of US 189 near the access road. The electrical power needs for the preliminary activities would be similar to other commercial or industrial development of this size and would not exceed 25 kV. The impact to the existing electrical infrastructure and supply would be minor and is not expected to adversely impact the available electricity supply.

During preliminary activities, containerized water would be trucked to the site daily as needed. Portable sanitary facilities would be used during preliminary activities and serviced by an outside licensed vendor who would transport the sanitary wastewater to a permitted wastewater treatment facility. If practical, optionally, a septic tank and drainfield would be installed at the KTC to provide service for the workers at the KTC.

As discussed in Section 3.3.4.4, in-migrating workers would be expected to temporarily or permanently reside in the surrounding area. These additional residents would be accommodated by existing water supplies and wastewater treatment capacity (see Tables 3.3.6-1 and 3.3.6-2) and because the influx of workers for the Project does not require the expansion of facilities, the impacts to utilities would be minor. However, a greater portion of the excess capacity of wastewater treatment would be consumed by the influx of workers in Lincoln County as discussed below. The impact to the excess capacity for water supply would be minor in Lincoln, Sweetwater, and Uinta Counties. The impact to the excess

capacity for wastewater treatment would be minor in Sweetwater and Uinta County (TerraPower 2024, Sections 4.4.4.4.1 and 4.4.4.4.2).

Sanitary wastewater would be transported offsite for treatment at a permitted wastewater treatment facility. Such facility would include the local plant under the responsibility of the Kemmerer-Diamondville Water and Wastewater Joint Powers Board and possibly other offsite wastewater treatment facilities in the region. It is estimated that the impact to Kemmerer-Diamondville's wastewater treatment plant excess capacity to be approximately 67 percent prior to some planned repairs to the existing system to mitigate existing inflow and infiltration issues and approximately 30 percent after the planned repairs from the preliminary activities workforce (TerraPower 2024, Section 4.4.4.4.1, pg. 4.4-34). As an option, a septic tank and drainfield could be installed to provide wastewater treatment for the KTC, which would reduce the wastewater volume treated at any offsite facility slightly.

Transportation and Traffic

The workforce would increase steadily from March 2025 through September 2026. Considering the housing availability discussed in Section 3.3.4.2, the peak workforce of 1,245 would be housed approximately 33, 22, and 45 percent in Lincoln, Sweetwater, and Uinta Counties. Currently, plans include limited parking. The number of commuting vehicles could be constrained by the temporary parking spaces available at the site, forcing carpooling as well as potentially generating other ride sharing.

Truck deliveries of equipment and construction materials and water are estimated to be 95 per day. Truck shipment arrivals and departures would be typically outside of peak commuting hours. Equipment and materials would be delivered by a variety of trucks, trailers, or other vehicles capable of transporting large and heavy loads. The delivery routes are not known currently. Potential routes within the region would include I-80 to US-189 and US-30 to US-189.

The water supply would be sourced locally. The largest municipal water suppliers in Lincoln, Uinta, and Sweetwater counties have excess capacity with the closest being Kemmerer and Diamondville which has 3.9 MGD (WWDC 2022). The delivery route would depend on the supplier or suppliers, and suppliers and routes have not been finalized. A supply connection for the Kemmerer and Diamondville public water source is along CR 302 just off US-189 north of the Kemmerer Unit 1 site. Utilizing this supply connection, truck deliveries of water using this supply connection would travel CR 302 to CR 304 to US-189.

The segment of US-189 where the site is located is bracketed by CR 304 to the north and WY 412 to the south. As indicated in Table 3.3.6-3, this segment has a 2023 traffic count of 1,676 and currently operates at a LOS of A (free flowing traffic). The commuting vehicles and truck shipments projected for 2026 would increase the daily traffic experienced along US-189. US-189 is a two-lane undivided roadway classified as a rural minor arterial. The Federal Highway Administration (2017) indicates that the capacity at LOS C as AADT for a highway of this type is 29,300. Thus, the capacity would not be exceeded for the projected traffic even if on-site parking was not constrained. However, commuting traffic would be concentrated peak a.m. and p.m. hours and involve left and right hand turns for site access which affects a road segment's LOS.

A traffic study was prepared and submitted to WYDOT to support the site access permit application. The site access permit traffic study accessed traffic for multiple phases of activity at the site. The traffic study assessed the impact of the arrival of 569 vehicles southbound and 527 vehicles northbound on US-189 during the peak a.m. hour. These additional vehicles would result in noticeable additional

traffic flow on US-189 based on traffic counts for US-189. The traffic analysis of 569 southbound and 527 northbound vehicles estimates traffic congestion north and south of the site entrance to be LOS D (approaching unstable flow) during the peak a.m. hour with similar LOS for the peak p.m. hour (Jorgensen 2024). The total of southbound and northbound vehicles (1,096) is similar to the peak number of workers (1,245). As shown in Figure 3.3.4-3, this peak number of workers is projected for the final month of preliminary activities, and workers are not projected to be above 1,000 until July 2026. Therefore, the analysis in the traffic study for the site access permit is informative for the Proposed Action timeframe. The total number of vehicles considered in the traffic study (1,096) is greater than the potential peak of vehicles traveling to the site except for the final three months of preliminary activities. Further, some workers would normally be expected to carpool even without on-site parking constraints. Therefore, the change in traffic conditions from LOS A to D would be bounding for the preliminary activities.

To further investigate traffic impacts on local roads, a second traffic study was performed to assess the traffic impacts in Kemmerer from Kemmerer Unit 1-associated traffic during multiple years, including 2025 and 2026 (FHU 2024). The second study focused on traffic from proposed housing developments on existing intersections. The results of this second traffic study show that traffic growth without the Proposed Action is projected to result in LOS of A or B in 2025 and 2026 during peak commuting hours. Applying the traffic volume estimated for the Proposed Action without consideration for staggered shifts and carpooling results in deterioration in traffic conditions up to an LOS of F at some intersections, and potential mitigation measures are presented in the study. Again, this study considered higher vehicle counts because it did not account for on-site parking constraints. Therefore, Proposed Action-related traffic congestion at intersections would likely result in moderate impacts rather than the large impacts that are anticipated without consideration of limited parking and carpooling.

Peak commuting hours would involve traffic congestion in Kemmerer and along US-189; the more severe impacts would be temporary both in daily times and in duration. The traffic congestion would attenuate with distance from the site and would not be expected to be widespread. As shown in Table 3.3.6-3, area roadways have relatively low AADTs and based on Federal Highway Administration (2017) capacity estimates for rural arterial highways, traffic would not approach capacity limits due to the Project.

The increase in traffic during peak commuting times could result in traffic slowing and congestion. The site access intersection with US-189 is designed to mitigate impacts to the flow of traffic along US-189. Further, carpooling would be expected due to parking constraints, reducing the number of vehicles traveling to the site. Potential impacts to existing road use during preliminary activities would be easily observed and measurable but would be localized and temporary and are expected to be moderate.

The miles driven for commuting and truck shipments would increase the number of vehicle accidents involving injuries and fatalities. Construction workers are assumed to commute 312 days a year. Round trip mileage for workers residing in Lincoln County (approximately 33 percent of workers) and thus arriving at the site from the north is assumed to be 20 miles (the approximate round-trip distance between the Project area and midpoint of Kemmerer). The distance for Sweetwater County residents was assumed to be 180 miles, the approximate round-trip distance between the site and mid-way between Green River and Rock Spring via I-80 to US-30.

Mileage for Uinta County residents (approximately 45 percent of workers) who arrive at the site from the south is assumed to be 98 miles (approximate round-trip distance between the Kemmerer Unit 1 site and the I-80 interchange in Evanston). Carpooling is assumed due to the on-site parking being limited.

Truck delivery routes are currently not known, but a round-trip mileage of 100 miles is assumed. The annual mileage during the peak preliminary activity period is approximately 3.0 million miles.

Average vehicle crash rates were calculated from WYDOT data for crashes, injuries, and fatalities for 2018-2022 and miles driven. The estimated annual number of accidents, injuries, and fatalities for workers commuting to and from the site and truck shipments is 6.0, 1.4, and 0.05, respectively. Potential traffic accident impacts are expected to be minor.

Fire Protection, Emergency Medical Services, and Medical

As discussed in Section 3.3.4, Socioeconomics, in-migrating workers would be expected to temporarily or permanently reside in the surrounding area. These additional residents would increase the populations serviced by the existing fire protection, EMS, and medical providers. Viewed over the construction period, assuming a LOS of 3.6 firefighters per 1,000 people (see Table 3.3.7-4), the average monthly increases in population by year would require an additional seven firefighters in the Socioeconomic Analysis Area to maintain the 3.6 firefighters LOS. At a county level, that would be an additional four in Lincoln County and three in Uinta County. To maintain existing EMS staff-to-resident levels, an LOS of 1.5 (see Table 3.3.6-4), three additional staff would be needed in the Socioeconomic Analysis Area in 2026—two in Lincoln County and one in Uinta County.

These temporary increases in population could potentially result in increases in demand for medical services. Many non-local workers temporarily relocating to the area would likely continue to access their own primary care physicians for preventative care, especially those workers who would be employed for shorter periods. Non-local workers may, however, seek short-term care in the Socioeconomic Analysis Area. Based on existing ratios of primary care physicians per 100,000 people, the estimated annual increases in population during the Project construction period could result in additional demand that would range from the equivalent of 0.2 physicians (2025) to 0.9 physicians (2026).

Based on the additional staff needed for the Socioeconomic Analysis Area's fire protection, emergency medical services, and medical services to maintain existing ratios of staff-to-residents, the impact of the additional residents would be minor and short-term.

3.3.6.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Existing traffic levels, patterns, and trends would likely continue. As land use in the area changes, so would the associated road use. Maintenance and repair of roads would occur based on existing plans; therefore, impacts would be negligible.

3.3.6.4 Cumulative Impacts

Existing industrial developments in the surrounding area that would rely on the existing utilities and transportation infrastructure, especially US-189, and thereby result in cumulative impacts, include the existing Naughton Power Plant and Kemmerer Mine, the TFF, NRC EIS Kemmerer Unit 1, the proposed Dry Creek Trona Mine, Uinta Wind Project, and Project West. The Naughton Power Plant and Kemmerer Mine are considered in the traffic counts presented in Table 3.3.6-3 and the Project's impact assessment for preliminary activity. In addition to the Naughton Plant's operations workforce,

the plant has an additional approximately 300 outage workers onsite for approximately 35 days for 3 out of 4 years.

The Kemmerer Unit 1 construction could rely on the same 25 kV electrical connection as the TFF and preliminary activities for the reactor, thereby increasing electricity usage. However, the cumulative impact to electricity supply and infrastructure would be expected to be minor. Impacts to fiber optic communication, water supply capacity, wastewater treatment capacity in the region would increase commensurately with the increase in the worker population.

The greatest cumulative impacts to traffic and transportation would occur from TFF operations, peak Kemmerer Unit 1 construction activities, a Naughton Power Plant outage, and ongoing operations at the power plant and activities at the Kemmerer Mine. Among these projects, the largest contributor to traffic would be the Kemmerer Unit 1 construction workforce. However, the impacts of the increased traffic would be localized to US-189 between Kemmerer and I-80, US-30 near Diamondville-Kemmerer, and WY 412. During that time, the site entrance on US-189 would be in place to mitigate the impacts to traffic flow along US-189. Staggering of Kemmerer Unit 1 construction worker shift start and end times would further reduce congestion during peak commuting times, and some carpooling would be expected among the construction workers. Cumulative impacts to traffic and transportation would be expected to be moderate with the implementation of a construction traffic management and traffic control plan prepared in coordination with WYDOT. The greatest impacts would occur during commuting hours when the Kemmerer Unit 1 construction workforce is at or near its peak.

3.3.7 Accidents and Hazards

3.3.7.1 Worker Safety

A workplace accident would be the most likely incident associated with the Kemmerer Unit 1 preliminary activities. According to the BLS, construction is the leading industry for fatal injuries and the 6th leading industry for non-fatal workplace injuries or illnesses in the private sector for 2021, as shown in Figures 3.3.7-1 and 3.3.7-2 (BLS 2022a, BLS 2022b). The Project location is in Kemmerer, Wyoming, which frequently experiences very cold temperatures and high winds that have the potential to exacerbate worker safety risks during those times.

The Project's Environmental, Health and Safety organization fully commits to both employee and public safety. Site safety protocol includes, but is not limited to, establishing well-defined responsibilities, managing risks, and monitoring activities at a high level. Additionally, strict adherence to equipment requirements, proper use of personal protective equipment, and provision of clear instructions ensure construction safety. Following BMPs before and during the Project activities results in a positive, effective safety culture.

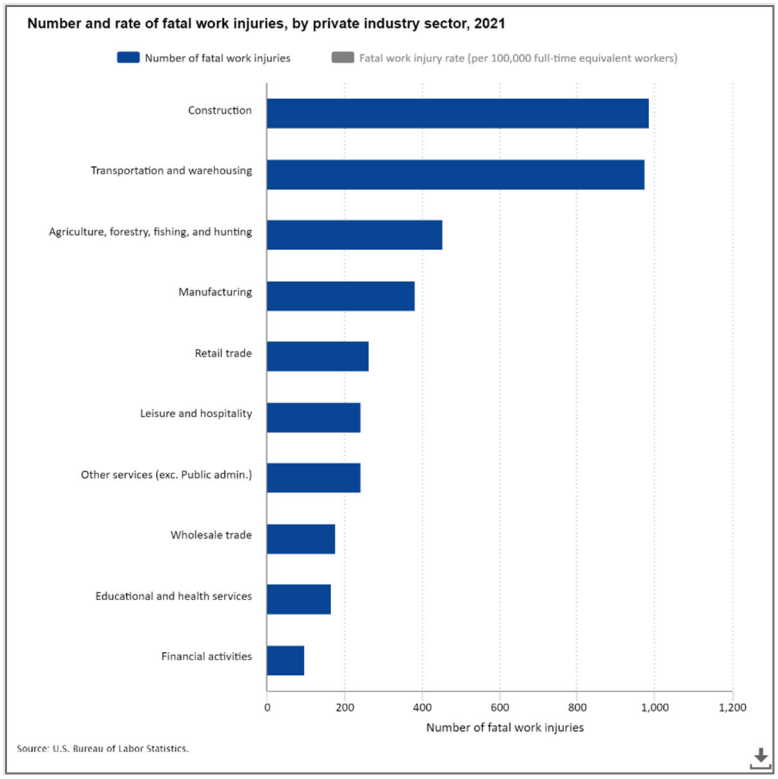

Figure 3.3.7-1 Fatal Workplace Injuries by Industry

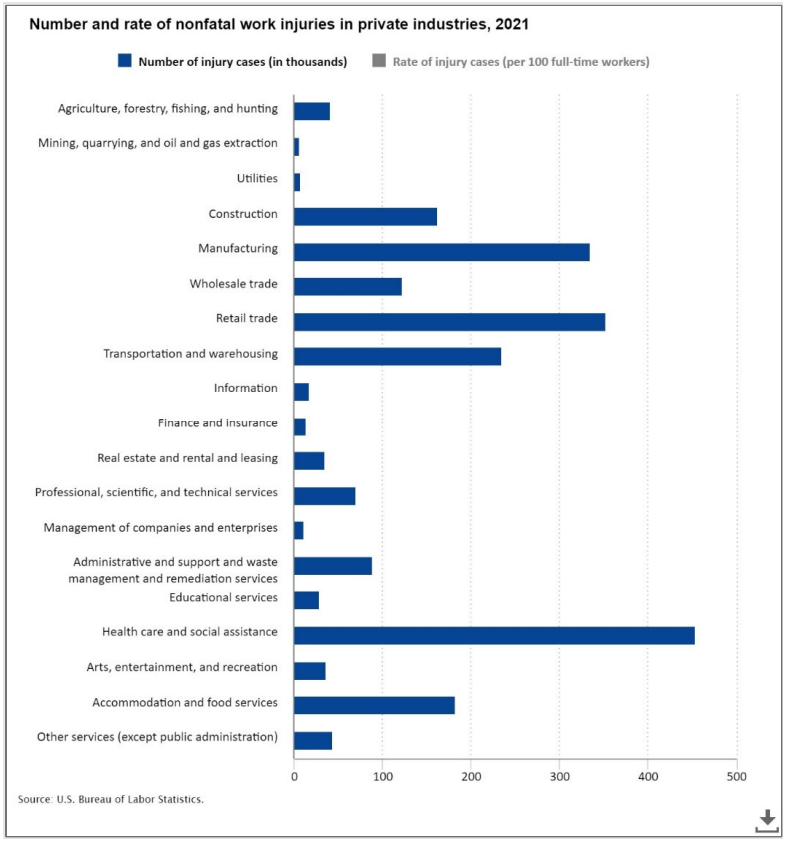

Figure 3.3.7-2 Non-Fatal Workplace Injuries by Industry

3.3.7.2 Environmental Impacts Related to Accidents and Hazards

Worker Safety

Potential health and safety impacts would be most relevant to those working near construction equipment and materials or are exposed to construction-related hazards daily. The risk would be reduced by daily and weekly safety meetings and Project communications, regular training for all employees specific to their job duties, and the use of appropriate safety equipment. The hierarchy of controls to reduce workplace hazards would also be followed and is shown in Figure 3.3.7-3 (CDC 2023).

Suspected hydrogen sulfide was noted during monitoring well development at many locations for wells screened in fractured bedrock. After well development was completed, a portable multi-gas meter was used to measure hydrogen sulfide at the top of the PVC casing for all wells. Hydrogen sulfide monitors, by way of portable multi-gas meters, would be used during construction of deep excavations to prevent exposure to workers.

Traffic Accidents

The general public may be exposed to construction-related hazards from unauthorized access to work sites (on foot or by motor vehicle). However, this would be a highly unlikely scenario due to the rural nature of the work site and the protective measures put in place to reduce this risk, such as fencing or signage.

Intentional Destructive Acts

Preliminary activities would not involve the transportation, storage, or use of radioactive materials. The Project would not be located near any national defense infrastructure or in the immediate vicinity of other substantial national structures (DOD 2023). The Proposed Action would not be considered to offer any targets for intentional destructive acts.

Adverse impacts to health and safety from the Project would be minimized during construction through established health and safety policies and procedures, providing notice to the public to prevent site access, and providing training to appropriate emergency response personnel and are therefore, minor.

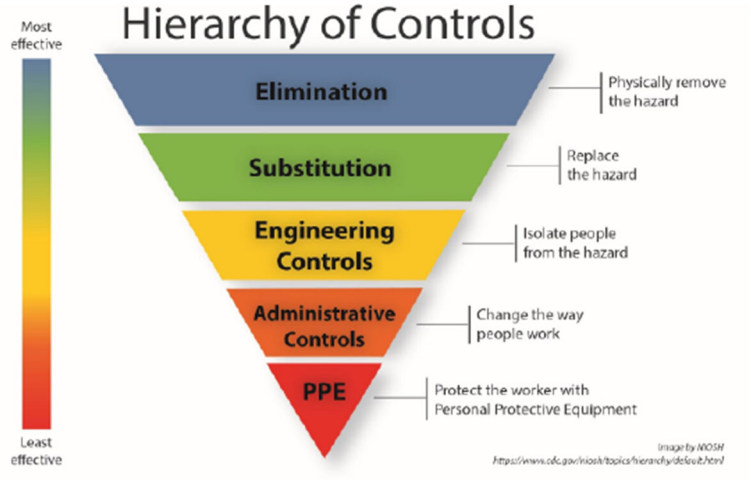

Figure 3.3.7-3 Hierarchy of Controls

3.3.7.3 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the expenditure of federal funds by TerraPower in support of the Project, the Proposed Action. For purposes of this analysis, DOE assumes the Project would not proceed if DOE does not authorize the expenditure of federal funds. Therefore, the impacts would be negligible to potential construction, operation, decommissioning employees, or the general public.

3.3.7.4 Cumulative Impacts

The existing operations at Naughton Power Plant and the Kemmerer Mine are within close enough proximity to be considered for cumulative impacts, but the proposed TFF project is of the closest proximity, resulting in a higher probability of cumulative impacts related to accidents and hazards. Kemmerer Unit 1 is anticipated to be an SFR nuclear facility. The incremental impact related to accidents and hazards, as it pertains to the Proposed Action, would be minor as safety practices between the TFF and Kemmerer Unit 1 site would align in complementary ways (e.g., construction phasing).

The review of the proposed Kemmerer Unit 1 accidents and hazards and cumulative impacts would be the subject of a later EIS that would be completed by the NRC through the submission of the Kemmerer Unit 1 construction permit and license application. The NRC and other applicable regulatory agencies would provide safety oversight and regulatory oversight to ensure the continued health and safety of the public and the environment.

SECTION 4 LIST OF AGENCIES AND PERSONS CONSULTED AND PREPARERS

Table 4.1-1 List of Agencies, Tribal Nations, and Persons Consulted

Name	Title	Organization	Role
Section 106 Consultation			
Sara Needles	State Historic Preservation Officer	Wyoming State Historic Preservation Office	Section 106 Consultation
Damian Kirkwood	WYCRO Manager	Wyoming State Historic Preservation Office	Section 106 Consultation
Richard Currit	Senior Archaeologist	Wyoming State Historic Preservation Office	Section 106 Consultation
Wyoming Department of Transportation			
Scott Gamo	Environmental Services Manager	Wyoming Department of Transportation	Project consultation
Darin Kaufman	WYDOT District 3 Traffic Engineer	Wyoming Department of Transportation	Project consultation
Wyoming Department of Environmental Quality			
Alan Edwards	Deputy Director	Wyoming Department of Environmental Quality	Project consultation
Christopher Toalson	Economist	Industrial Siting Division, Wyoming Department of Environmental Quality	Project consultation
Jenny Staeben	Administrator of Industrial Siting Division/	Industrial Siting Division, Wyoming Department of Environmental Quality	Project consultation
Tribal Nations			
Lee Juan Tyler	Chairman	Shoshone-Bannock Tribes of the Fort Hall Reservation	Government-to-government consultation
Carolyn Smith	Section 106 Lead	Shoshone-Bannock Tribes of the Fort Hall Reservation	Section 106 consultation
Forrest Tahdooahnippah	Chairman	Comanche Nation of Oklahoma	Government-to-government consultation
Martina Minthorn	Tribal Historic Preservation Officer (THPO)	Comanche Nation of Oklahoma	Section 106 consultation

List of Agencies and Persons Consulted and Preparers

Name	Title	Organization	Role
Jeffrey Stiffarm	President	Fort Belknap Reservation	Government-to-government consultation
Michael Blackwolf	THPO	Fort Belknap Reservation	Section 106 consultation
Frank White Clay	Chairman	Crow Tribe of Indians	Government-to-government consultation
Aaron Brien	Director, THPO	Crow Tribe of Indians	Section 106 consultation
Peter Lengkeek	Chairman	Crow Creek Sioux	Government-to-government consultation
Merle Marks	THPO	Crow Creek Sioux	Section 106 consultation
John St. Clair	Chairman	Eastern Shoshone Tribe	Government-to-government consultation
Joshua Mann	THPO	Eastern Shoshone Tribe	Section 106 consultation
Lloyd Googles	Chairman	Northern Arapaho	Government-to-government consultation
Crystal C'Bearing	Director, THPO	Northern Arapaho	Section 106 consultation
Durell Cooper	Chairman	Apache Tribe of Oklahoma	Government-to-government consultation
Darrin Cisco	Cultural Resource Specialist	Apache Tribe of Oklahoma	Section 106 consultation
Dennis Alex	Chairman	Northwestern Band of the Shoshone Nation	Government-to-government consultation
Patty Timbimboo-Madsen	History and Culture Specialist	Northwestern Band of the Shoshone Nation	Section 106 consultation
Reggie Wassana	Governor	Cheyenne and Arapaho Tribes of Oklahoma	Government-to-government consultation
Max Bear	THPO	Cheyenne and Arapaho Tribes of Oklahoma	Section 106 consultation
Daniel Moon	Chairman	Skull Valley Band of Goshute Indians	Government-to-government consultation and Section 106 consultation
Julius Murray	Chairman	Ute Indian Tribe	Government-to-government consultation
Betsy Chapoose	Director, THPO	Ute Indian Tribe	Section 106 consultation

List of Agencies and Persons Consulted and Preparers

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Genevieve Fields	Cultural Advisor, THPO	Confederated Tribes of the Goshute Reservation	Section 106 consultation
Rodney "Minnow" Gervais	Chairman	Blackfeet Nation	Government-to-government consultation
John Murray	THPO	Blackfeet Nation	Section 106 consultation
Ryman LeBeau	Chairman	Cheyenne River Sioux Tribe	Government-to-government consultation
Steven Vance	THPO	Cheyenne River Sioux Tribe	Section 106 consultation
Harlan Gopher Baker	Chairman	Chippewa Cree Tribe	Government-to-government consultation
Jonathan Windy Boy	THPO	Chippewa Cree Tribe	Section 106 consultation
Justin Gray Hawk Sr.	Chairman	Fort Peck Assiniboine and Sioux Tribes	Government-to-government consultation
Dyan Youpee	THPO	Fort Peck Assiniboine and Sioux Tribes	Section 106 consultation
Clyde J.R. Estes	Chairman	Lower Brule Sioux Tribe	Government-to-government consultation
Boyd Gourneau	Director Cultural Resources and Public Information Office	Lower Brule Sioux Tribe	Section 106 consultation
Mark N. Fox	Chairman	Madan, Hidatsa and Arikara Nation	Government-to-government consultation
Allan Demaray	THPO	Madan, Hidatsa and Arikara Nation	Section 106 consultation
Shannon Wheeler	Chairman	Nez Perce Tribe	Government-to-government consultation
Keith Baird	THPO	Nez Perce Tribe	Section 106 consultation
Serena Wetherelt	President	Northern Cheyenne Tribe	Government-to-government consultation
Teanna Limpy	THPO	Northern Cheyenne Tribe	Section 106 consultation

List of Agencies and Persons Consulted and Preparers

Name	Title	Organization	Role
Frank Star Comes Out	President	Oglala Sioux Tribe	Government-to-government consultation
Justin Pourier	THPO	Oglala Sioux Tribe	Section 106 consultation
Jason Sheridan	Chairman	Omaha Tribe of Nebraska	Government-to-government consultation
Jarell Grant	THPO	Omaha Tribe of Nebraska	Section 106 consultation
Candace Schmidt	Chairwoman	Ponca Tribe of Nebraska	Government-to-government consultation
Theresa Foley	THPO	Ponca Tribe of Nebraska	Section 106 consultation
Kathleen Wooden Knife	President	Rosebud Sioux Tribe	Government-to-government consultation
Ione Quigley	THPO	Rosebud Sioux Tribe	Section 106 consultation
J. Garret Renville	Chairman	Sisseton Wahpeton Oyate	Government-to-government consultation
Dianne Desrosiers	THPO	Sisseton Wahpeton Oyate	Section 106 consultation
Lonna Jackson-Street	Chairwoman	Spirit Lake Nation	Government-to-government consultation
Kenneth Graywater Jr.	THPO	Spirit Lake Nation	Section 106 consultation
Janet Alkire	Chairwoman	Standing Rock Sioux Tribe	Government-to-government consultation
Tyrel Iron Eyes	Tribal Archaeologist	Standing Rock Sioux Tribe	Section 106 consultation
Victoria Kitcheyan	Chairwoman	Winnebago Tribe of Nebraska	Government-to-government consultation
Sunshine Thomas-Bear	Cultural Preservation Director, THPO	Winnebago Tribe of Nebraska	Section 106 consultation
Robert Flying Hawk	Chairman	Yankton Sioux Tribe	Government-to-government consultation
Colten Archambeau	THPO	Yankton Sioux Tribe	Section 106 consultation
U.S. Army Corps of Engineers			
Alex Kostra	Senior Project Manager	Wyoming Regulatory Office, U.S. Army Corps of Engineers	Project consultation

Table 4.1-2 List of EA Content Preparers

Name	Title	Organization	Role
Gretchen Applegate	NEPA Document Manager	Department of Energy – Office of Clean Energy Demonstrations	NEPA Document Manager
Kristin Kerwin	NEPA Compliance Officer	Department of Energy – Office of Clean Energy Demonstrations	NEPA Compliance Officer
Amy Shanahan	Section 106 Compliance Lead	Department of Energy – Office of Clean Energy Demonstrations	Section 106 Compliance Lead
Jeff Ciocco	Advanced Reactor Demonstration Program	Department of Energy – Office of Clean Energy Demonstrations	Subject Matter Expert
Nathan Howard	Advanced Reactor Demonstration Program	Department of Energy – Office of Clean Energy Demonstrations	Subject Matter Expert
Rasheed Auguste	Advanced Reactor Demonstration Program	Department of Energy – Office of Clean Energy Demonstrations	Subject Matter Expert
Brian O'Donnchadha	Tribal Liaison	Department of Energy – Office of Clean Energy Demonstrations	Tribal Subject Matter Expert
Kyra Perkins	Deputy Chief Engineer, Environmental	Bechtel Corporation	Kemmerer Unit 1 NEPA Project Lead
Ryan Sell	Environmental Scientist/Engineer	Bechtel Corporation	Kemmerer Unit 1 NEPA Specialist
Anita Alexander	Environmental Scientist/Engineer	Bechtel Corporation	Kemmerer Unit 1 NEPA Specialist
Andrew Harrison	Environmental Consultant	Bechtel Corporation	Kemmerer Unit 1 NEPA Specialist
Lynn Van-Derpoel	Licensing Supervisor	Bechtel Corporation	Kemmerer Unit 1 Licensing Support
Jeremy Carlson	Manager of Construction	Bechtel Corporation	Manager of Construction
Leo Sanchez	Senior Civil Engineer	Bechtel Corporation	Civil Engineering Subject Matter Expert
Matthew Waterman	Engineering Geology Manager	Bechtel Corporation	Geology and Hydrology Subject Matter Expert
John Damm	Principal Geotechnical Engineer	Bechtel Corporation	Geotech Subject Matter Expert
Lisa Matis	Project Manager	Tetra Tech	NEPA Specialist, Senior Technical Reviewer
Phil Moore	Senior Consulting Scientist	Tetra Tech	Ecology, Senior Technical Reviewer

List of Agencies and Persons Consulted and Preparers

Name	Title	Organization	Role
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Nicole Hill	Socioeconomist	Tetra Tech	Socioeconomics
Mary Hoganson	Senior Consulting Scientist	Tetra Tech	Utilities, Traffic, and Transportation
Chris Borstel	Historic Preservation Specialist / Archaeologist	Tetra Tech	Cultural Resources

SECTION 5 REFERENCES

Allen 2024. "New Housing in Lincoln and Uinta Counties." Personal communication between N. Hill (Tetra Tech) and S. Allen (South Lincoln County Economic Development Corporation.) May 23, 2024.

Anderson 2024. "Evanston Apartments." Electronic mail between N. Hill (Tetra Tech) and C. Anderson (Boardwalk Industries). June 3, 2024.

Applegate, Gretchen, 2024. RE: TerraPower Natrium Reactor Project – Sodium Test and Fill Facility [DBI_WY_2023_418]. Letter of March 11 to Richard Currit, Wyoming State Historic Preservation Office, Cheyenne, from Gretchen Applegate, NEPA Compliance Specialist, Office of Clean Energy Demonstrations, U.S. Department of Energy.

Ball, B. 2023. "Cold temperatures, deep snow taking toll on Wyoming wildlife." Cheyenne Region News, Wyoming Game and Fish Department. Available online at https://wgfd.wyo.gov/News/Cold-temperatures%2C-deep-snow-taking-a-toll-on-Wyom#:~:text=The%20Rawlins%20area%20is%2C%20by,the%20end%20of%20December%202022. Accessed September 19, 2024.

BEA (U.S. Bureau of Economic Analysis) 2021. RIMS II Multipliers (2012/2021). Table 1.5 Total Multipliers for Output, Earnings, Employment, and Value Added by Detailed Industry. Lincoln and Uinta Counties, Wyoming (Type II). U. S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.

BEA 2023a. "CAEMP25N Total Full-Time and Part-Time Employment by NAICS Industry." Available online at https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=1&acrdn=6. Accessed July 11, 2024.

BEA 2023b. "CAINC1County and MSA Personal Income Summary: Personal Income, Population, Per Capita Personal Income." Available online at https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=1&acrdn=6. Accessed June 11, 14, and 15, 2024.

Bergman 2022. "Fossil Island Golf Club Attendance." Personal communication between N. Hill, Tetra Tech, and L. Bergman. Fossil Island Golf Club. April 20, 2022.

BIO-WEST 2024. Natrium Project Aquatic Surveys Final Report, January 2024. Prepared by BIO-WEST, Inc., Logan, UT, for Tetra Tech, Aiken, South Carolina.

BLM (Bureau of Land Management) 1986. BLM Manual 8431 – *Visual Resource Contrast Rating.* Available online at https://www.blm.gov/sites/blm.gov/files/program_recreation_visual%20resource%20management_quick%20link_BLM%20Handbook%20H-8431-1%2C%20Visual%20Resource%20Contrast%20Rating.pdf. Accessed January 2023.

BLM. 2010. Record of Decision and Approved Kemmerer Resource Management Plan. Available online at https://eplanning.blm.gov/public_projects/lup/63198/77649/86669/Record_Of_Decision_Approved_RMP.pdf. Accessed December 5, 2024.

BLM Undated a. “Fontenelle Creek Recreation Area.” Available online at https://www.blm.gov/visit/fontenelle-creek-recreation-area. Accessed May 2, 2022.

BLM Undated b. “Slate Creek Campground.” Available online at https://www.blm.gov/visit/slate-creek-campground. Accessed May 2, 2022.

BLS 2023. "Quarterly Census of Employment and Wages." Available online at https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables. Accessed July 14, 2024.

BLS 2024. “Local Area Unemployment Statistics.” Available online at https://www.bls.gov/lau/tables.htm. Accessed July 11, 2024.

Braband 2022. “RV Park Utilization.” Personal communication between N. Hill (Tetra Tech) and B. Braband (Foothills RV Park). December 20, 2022.

Braband 2024. “Foothills Mobile Home and RV Park Expansion.” Personal communication between N. Hill (Tetra Tech) and B. Braband (Foothills RV Park). May 30, 2024.

CDC (Centers for Disease Control and Prevention) 2023. The National Institute for Occupational Safety and Health (NIOSH) Hierarchy of Controls. January 17, 2023. Available online at https://www.cdc.gov/niosh/topics/hierarchy/default.html#print.

Collins 2022. “Fossil Butte National Monument and Visitor Center Attendance.” Personal communication between N. Hill, Tetra Tech, and J. Collins., Fossil Butte National Monument and Visitor Center. April 18, 2022.

Connell, L., R. Wilbur, L. Porensky, and J.D. Scasta, 2019. “Prairie Dog Ecology and Management in Wyoming.” University of Wyoming Extension, College of Agriculture and Natural Resources. Laramie, Wyoming. Available online at https://wyoextension.org/publications/html/B1346/. Accessed September 15, 2024.

Cooperative Institute for Research in Environmental Sciences (CIRES) 2023. Western Water Assessment 2023. January 10, 2023.

Coyle 2024. “Gateway Development and Canyon Road Development Projects.” Electronic mail between M. Romano (Bechtel Corporation) and S. Coyle (SNC Investment Partners). June 14, 2024.

Currit, Richard L. 2024a. Re: TerraPower Natrium Reactor Project-Sodium Test and Fill Facility (DBI_WY_2023_418). Letter of April 4 to Kristin Kerwin, U.S. Department of Energy, Golden Field Office, Golden, CO, from Richard L. Currit, Senior Archaeologist, Wyoming State Historic Preservation Office, Cheyenne.

Currit, Richard L. 2024b. Re: WL32304, Kemmerer/US 189, Wildlife Crossings, Uinta and Lincoln Counties (DBI_WY_2023_586, DBU_WY_2024_54). Letter of January 31 to Stephanie Lowe, Cultural Resources Specialist, Wyoming Department of Transportation, from Richard L. Currit, Senior Archaeologist, Wyoming State Historic Preservation Office.

Currit, Richard L. 2025. Re: TerraPower Natrium Reactor Project-Kemmerer Unit 1 Preconstruction Activities (DBI_WY_2024_515, DBU_WY_2024_1128). Letter of January 16 to Amy Shanahan, Cultural Resource Specialist, U.S. Department of Energy, from Richard L. Currit, Senior Archaeologist, Wyoming State Historic Preservation Office, Cheyenne.

Dahal, A. and S.M. Skillman, 2022. "Wyoming's Physician Workforce in 2021." Available online at https://familymedicine.uw.edu/chws/wp-content/uploads/sites/5/2022/08/Wyoming_Physicians_FR_July_2022.pdf. Accessed August 2024.

Data USA 2022. "Kemmerer, WY." Available online at https://datausa.io/profile/geo/kemmerer-wy/. Accessed July 2023.

DOD (U.S. Department of Defense) 2023. Military Installations. Available online at https://installations.militaryonesource.mil/view-all. Accessed September 20, 2024.

DOE 2024a. "Final Environmental Assessment Sodium Test and Fill Facility." 2024. Office of Clean Energy Demonstrations. DOE/EA-2217. May 2024. Available online at https://www.energy.gov/nepa/articles/doeea-2217-final-environmental-assessment. Accessed May 31, 2024.

DOE 2024b. "Finding of No Significant Impact for the Final Environmental Assessment for the TerraPower Test and Facility, Kemmerer, Wyoming." 2024. Office of Clean Energy Demonstrations. DOE/EA-2217. May 2024. Available online at https://www.energy.gov/nepa/articles/doeea-2217-finding-no-significant-impact. Accessed May 31, 2024.

Evanston Regional Hospital 2024. Evanston Regional Hospital. Find a Provider. Available online at https://providers.evanstonregionalhospital.com/. May 1, 2024.

ExxonMobil 2020. "Wyoming Industrial Development Information and Siting Act Section 109 Permit Application. LaBarge Carbon Capture Project. Kemmerer, Wyoming. Final Report. January 2020." Available online at https://deq.wyoming.gov/industrial-siting-2/permitting/. Accessed September 4, 2024.

FEMA (Federal Emergency Management Agency) 2011. National Flood Hazard Layer. FIRM Panels 56023C2230D and 56023C2235D (effective November 16, 2011). Available online at https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed November 2022.

FBPB (Fossil Basin Promotion Board) 2021. "Attractions." Available online at https://fossilbasin.org/attractions/. Accessed April 14, 2022.

FIGC (Fossil Island Golf Club) Undated. "Golf at Fossil Island." Available online at https://fossilislandgc.com/. Accessed April 19, 2022.

FHU (Felsburg Holt & Ullevig) 2024. "Kemmerer Power Station Unit 1 Traffic Analysis Report." October 2024. Included as Appendix H-1 to the Wyoming Industrial Development Information and Siting Act Section 109 Permit Application, Kemmerer Power Station Unit 1.

FHWA 2017 (Federal Highway Administration). "Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System." October 2017. Available online at https://www.fhwa.dot.gov/policyinformation/pubs/pl18003/hpms_cap.pdf. Accessed October 8, 2023 and September 22, 2024.

GNF-A (Global Nuclear Fuel—Americas, LLC) 2023. Environmental Report Supplement for Global Nuclear Fuel-Americas, LLC -Natrium Fuel Fabrication Facility. Available online at https://www.nrc.gov/docs/ML2306/ML23065A074.pdf.

Green, T. 2022. Wyoming Department of Education. "Student-Teacher Ratios in Wyoming." Electronic mail to N. Hill, Tetra Tech from T. Green, Wyoming Department of Education on November 3, 2022.

Gunter 2022. "RV Park Utilization." Personal communication between N. Hill (Tetra Tech) and G. Gunter (Riverside RV Park). December 20, 2022.

Harding, William M. 1994. Class III Cultural Resource Inventory and Reinspection of Previously Recorded Sites Along a Proposed US West Communications Fiber Optic Cable Line Between Evanston and Kemmerer Uinta and Lincoln Counties, Wyoming. Prepared for US West Communications, Cheyenne, Wyoming, by Mariah Associates, Inc., Laramie, Wyoming. Accessible via WyoTrack, DBI_WY_1999_17750.

Hawbaker, T.J. 2012. "Wyoming Basin Ecoregion." Chapter 25 in *Status and Trends of Land Change in the Western United States—1973 to 2000.* Edited by Benjamin M. Sleeter, Tamara S. Wilson, and William Acevedo. U.S. Geological Survey Professional Paper 1794-A. Available online at https://pubs.usgs.gov/pp/1794/a/. Accessed August 26, 2024.

HRSA (Health Resources & Services Administration) 2023. Fact Sheets: FY 2023 – Wyoming; FY 2023 – Lincoln, Wyoming; FY 2023 – Sweetwater, Wyoming; and FY 2023 – Uinta, Wyoming. Available online at https://data.hrsa.gov/data/fact-sheets. Accessed September 20, 2024.

Jorgensen 2024. Test and Fill Facility & Natrium Demonstration Project Traffic Impact Study as part of the WYDOT Access Permit Application, Rev. 7. February 6, 2024

Julian 2022. "RV Park Utilization." Personal communication between N. Hill (Tetra Tech) and M. Julian (Cowboy Joe's RV Park). December 20, 2022.

Karpinski, Mark, and Elizabeth Karpinski, 2023. A Class III Cultural Resource Inventory for TerraPower, LLC's Natrium® Demonstration Project, Lincoln County, Wyoming (June 2023 version). Prepared for TerraPower, Bellevue, WA, and Bechtel, Reston, VA, by Tetra Tech, Inc., Salt Lake City, UT.

Karpinski, Mark, and Elizabeth Karpinski, 2024a. A Class III Cultural Resource Inventory for TerraPower, LLC's Test and Fill Facility Project, Lincoln County, Wyoming. March 2024. Prepared for TerraPower, Bellevue, WA, and Bechtel, Reston, VA, by Tetra Tech, Inc., Salt Lake City, UT.

Karpinski, Mark, and Elizabeth Karpinski, 2024b. A Class III Cultural Resource Inventory for TerraPower, LLC's Kemmerer Unit 1 Preconstruction Activities, Lincoln County, Wyoming. November 2024. Prepared for TerraPower, Bellevue, WA, and Bechtel, Reston, VA, by Tetra Tech, Inc., Salt Lake City, UT.

Kemmerer Undated. "Welcome to the City of Kemmerer." Available online at https://www.kemmerer.org. Accessed April 19, 2022.

Kemmerer 2021. City of Kemmerer Financial Statements. June 30, 2021. Available online at http://www.kemmerer.org/ wp-content/2022/02/PDF-Financial-Statements-City-of-Kemmerer-2021.pdf. Accessed September 14, 2022.

City of Kemmerer. 2022. Public Notice of Land Use Change, Kemmerer City, Wyoming. Available online at https://www.kemmerer.org/wp-content/uploads/2022/06/OKC-Development-Public-Notice-of-Re-zone.pdf. Accessed July 19, 2022.

LA 2024. Little America Hotel. 2024. "Little America RV Park." Available online at https://wyoming.littleamerica.com/rv/. Accessed May 10, 2022.

LCOEM (Lincoln County Office of Emergency Management) Undated a. Emergency Management. Available online at https://www.lincolncountywy.gov/government/emergency_management/index.php. Accessed November 29, 2022 and September 22, 2024.

LCOEM Undated b. Plans. Available online at https://www.lincolncountywy.gov/government/emergency_management/plans.php. Accessed November 29, 2022 and August 27, 2024.

Lincoln County 2021. Lincoln County, Wyoming. Financial Statements. June 30, 2021. Available online at https://cms5.revize.com/revize/lincoln/Document_center/Government/Treasurer/Audit/2021%20AUDIT.pdf. Accessed September 14, 2022.

Lincoln County 2022. Wyoming Region 4 Hazard Mitigation Plan – 2022. Available online at https://www.lincolncountywy.gov/government/emergency_management/plans.php. Accessed November 29, 2022 and September 22, 2024.

Lockwood, J. 2022. Wyoming Game and Fish Department surveys of Hams Fork and North Fork Little Muddy Creek fish. Personal communication between J. Lockwood (District Fishery Biologist, Wyoming Game and Fish Department) and P.R. Moore (Tetra Tech). May 12

Lockwood, J. 2023. Distribution of Roundtail Chubs in North Fork Little Muddy Creek. Personal communication between J. Lockwood (District Fishery Biologist, Wyoming Game and Fish Department) and P.R. Moore (Tetra Tech). March 14.

Manley, P.N., B. Van Horne, J.K. Roth, W.J. Zielinski, M.M. McKenzie, T.J. Weller, F.W. Weckerly, and C. Vojta. 2006. Multiple Species Inventory and Monitoring Technical Guide. Gen. Tech. Rep. WO-73. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 204p. Available online at https://www.fs.usda.gov/psw/publications/wo/wo_gtr073.pdf. Accessed September 15, 2024.

McClarnon 2023. "Kemmerer-Diamondville Wastewater Treatment Plant Capacity and Average Daily Use," Personal communication between N. Hill (Tetra Tech) and Brent McClarnon (Kemmerer-Diamondville Wastewater Treatment Plant). February 7, 2023.

MHSC (Memorial Hospital of Sweetwater County). 2024. Memorial Hospital of Sweetwater County. Available online at https://www.sweetwatermemorial.com/. Accessed May 1, 2024.

Moe, Jeanne M. (editor), 1984. Archaeological Investigations of the Kemmerer-South Highway, Wyoming Project SCPF-01-2(3), Lincoln County, Wyoming. Prepared for the Wyoming

Highway Department, Cheyenne, by the Office of the Wyoming State Archaeologist, Laramie. Accessible via WyoTrack, DBI_WY_1999_7130.

NatureServe. 2024. "Inter-Mountain Basins Greasewood Flat." NatureServe Network Biodiversity Location Data accessed through NatureServe Explorer. NatureServe, Arlington, Virginia. Available online at https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.722892/Inter-Mountain_Basins_Greasewood_Flat. Accessed August 26, 2024.

NOAA (National Oceanic and Atmospheric Administration) 2022. National Centers for Environmental Information. Wyoming – State Climate Summaries. Available online at https://statesummaries.ncics.org/chapter/wy/. Accessed July 2023.

NPS (National Park Service) 2020. "Fossil Butte National Monument Fossils." Available online at https://www.nps.gov/fobu/learn/nature/fossils.htm. Accessed April 18, 2022.

NPS 2022. "National Historic Landmarks. List of NHLs by State." Available online at https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm. Accessed April 19, 2022.

NRC (U.S. Nuclear Regulatory Commission) 2009. Environmental Assessment for the Renewal of U.S. Nuclear Regulatory Commission License No. SNM-1097 for the Global Nuclear Fuel–Americas, Wilmington Fuel Fabrication Facility. May 14, 2009. Available online at https://www.nrc.gov/docs/ML0911/ML091180239.pdf.

NRC 2022a. TerraPower, LLC – U.S. Nuclear Regulatory Commission (NRC) Staff's Response to TerraPower's Request for a Regulatory Interpretation Regarding the Construction of the Sodium Test and Fill Facility. August 10, 2022. Available online at https://www.nrc.gov/docs/ML2217/ML22174A425.pdf.

NRC 2022b. Definitions, 10 CFR 51.4. November 14, 2022. Available online at https://www.nrc.gov/reading-rm/doc-collections/cfr/part051/part051-0004.html.

NRC 2024. US SFR Owner, LLC -Kemmerer Power Station Unit 1 Construction Permit Application Review Schedule and Resource Estimate. June 12, 2024. Available online at https://www.nrc.gov/docs/ML2416/ML24162A063.pdf.

NRCS 2020. Web Soil Survey: Custom Soil Resource Report for Lincoln County Area, Wyoming, Southern Part. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed January 23, 2023.

NRCS 2021. USA Soils Map Units. Accessible through Esri Living Atlas. Available online at https://www.arcgis.com/home/item.html?id=06e5fd61bdb6453fb16534c676e1c9b9. Accessed November 2022.

PacifiCorp 2023. 2023 Integrated Resource Plan, Volume I, March 31, 2023. Available online at https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2023-irp/2023_IRP_Volume_I.pdf. Accessed September 26, 2023.

PacifiCorp 2024. "2023 Integrated Resource Plan Update. April 1." Available online at https://www.pacificorp.com/energy/integrated-resource-plan.html. Accessed September 4, 2024.

Pacific Soda LLC. 2024. Industrial Siting Permit Application. The Dry Creek Trona Project, Sweetwater County, Wyoming. Available online at https://deq.wyoming.gov/industrial-siting-2/council/.

Page, Michael K., and Erin Kelley, 2024. Results of a Class III Cultural Resource Inventory: US Highway 189, Wildlife Crossings, Uinta and Lincoln Counties, Wyoming. Prepared for the Wyoming Department of Transportation, Cheyenne, by the Office of the Wyoming State Archaeologist, Laramie. Accessible via WyoTrack, DBI_WY_2023_586.

Picerno 2022. "Fossil Country Frontier Museum Attendance." Personal communication between N. Hill, Tetra Tech, and G. Picerno. Fossil Country Frontier Museum. April 18, 2022.

Recreation.gov. 2022a. "Tail Race Campground." Available online at https://www.recreation.gov/camping/poi/10000167. Accessed May 3, 2022.

Recreation.gov. 2022b. "Weeping Rock Campground." Available online at https://www.recreation.gov/camping/poi/14718. Accessed May 3, 2022.

RV Life 2022. "Wyoming RV Park and Campground Reviews. Wyoming RV Parks." Available online at https://campgrounds.rvlife.com/regions/wyoming. Accessed May 2, 2022.

RV Life 2024. "Wyoming RV Park and Campground Reviews. Wyoming RV Parks." Available online at https://campgrounds.rvlife.com/regions/wyoming. Accessed July 17, 2024.

Salas, A., C. Duchardt, and N. Carr. 2024. Overwintering raptor abundance and community composition in relation to prairie dog colonies in the southern and central Great Plains. Journal of Raptor Research 58(1): 37-53. Available online at https://doi.org/10.3356/JRR-22-119. Accessed September 15, 2024.

Shimek, Rachael, Elizabeth Shirkrallah, Beth Karpinski, Richard Currit, Mark Karpinski, and Amy Shananhan. 2024. Email chain on "Site number request for TFF-01," October 16-22, 2024, among WY SHPO staff (Shimek and Currit), Tetra Tech staff (Shirkrallah, Karpinski, and Karpinski), and DOE staff (Shanahan).

SLHD (South Lincoln Hospital District). 2024. Welcome to South Lincoln Medical Center. Available online at https://www.southlincolnmedical.com/. Accessed May 1, 2024.

Slovernick 2022. "J. C. Penney House Museum Attendance." Personal communication between N. Hill, Tetra Tech, and L. Slovernick, J. C. Penney House Museum. April 18, 2022.

STR (Smith Travel Research, LLC). 2023a. "Participation List request." Electronic mail from Melinda, STR Trend Department, to N. Hill, Tetra Tech, Inc. January 19, 2023.

STR 2023b. "RE: FW: Participation List request [Case: 100551833]." Trend # 1399415_SADIM / Created February 01, 2023. Electronic mail from Sheila Sanders, STR Trend Department, to N. Hill, Tetra Tech, Inc. February 2, 2023.

Sweetwater County Travel and Tourism Board. 2024. Sweetwater County Tourism Recap. Rock Springs and Green River. Available online at https://www.explorewy.com/tourism-partner-information. Accessed September 2024.

TerraPower 2024. Kemmerer Power Station Unit 1 Environmental Report. Available online at https://www.nrc.gov/docs/ML2408/ML24088A059.html. Accessed April 18, 2024.

Tetra Tech 2023a. Wetlands and Other Waters of the U.S. Delineation Report, Natrium Project, Lincoln County, Wyoming. Prepared by Tetra Tech. January.

Tetra Tech 2023b. General Terrestrial Visual Encounter Surveys, Natrium Project, Lincoln County, Wyoming. Prepared by Tetra Tech. January.

Tetra Tech 2023c. General Terrestrial Visual Encounter Surveys, Natrium Project, Lincoln County, Wyoming. Prepared by Tetra Tech. July.

Tetra Tech 2023d. Ute Ladies'-Tresses Supplemental Survey, Natrium Demonstration Project, Lincoln County, Wyoming. Prepared by Tetra Tech. November.

Tetra Tech 2024a Ute Ladies'-Tresses Survey, Natrium Demonstration Project, Lincoln County, Wyoming. Prepared by Tetra Tech. Revision 2. January 2024

Tetra Tech 2024b. Ute Ladies'-Tresses Survey, Final Report, Natrium Demonstration Project, Lincoln County, Wyoming. Prepared by Tetra Tech. September 2024.

Tetra Tech 2024c. Avian Pre-construction Nest Clearance Survey and Monitoring Plan. Prepared for Bechtel Power. May 2024.

Uinta County Undated. Emergency Management. Available online at https://www.uintacountywy.gov/125/Emergency-Management. Accessed September 22, 2024.

Uinta Wind Energy LLC 2021. Uinta Wind Energy Project Uinta County, Wyoming. Industrial Siting Permit Socioeconomic Impact Analysis Report. December 2021 Update. Available online at https://deq.wyoming.gov/industrial-siting-2/council/. Accessed September 4, 2024.

USCB (U.S. Census Bureau) 2010. "P1. Total Population." Decennial Census. DEC Summary File 1. Available online at https://data.census.gov/advanced. Accessed July 10, 2024.

USCB 2020a. "P1. Race." *Decennial Census P.L. 94-171 Redistricting Data*. Available online at https://data.census.gov/advanced. Accessed April 5, 2023.

USCB 2020. "P1. Total Population." DEC Demographic and Housing Characteristics. Available online at https://data.census.gov/advanced. Accessed July 10, 2024.

USCB 2021a. "S1101. Households and Families." ACS 5-Year Estimates Subject Tables (2017-2021). Available online at https://data.census.gov/advanced. Accessed May 30, 2023.

USCB 2021b. "B05009. Age and Nativity of Own Children Under 18 Years in Families and Subfamilies by Number and Nativity of Parents." ACS 5-Year Estimates Detailed Tables (2017-2021). Available online at https://data.census.gov/advanced. Accessed May 30, 2023.

USCB 2022a. "DP05. ACS Demographic and Housing Estimates." ACS 5-Year Estimates Data Profiles. Available online at https://data.census.gov/advanced. Accessed July 16, 2024.

USCB 2022b. "B25004. Vacancy Status." American Community Survey 2018-2022 5-Year Estimates Detailed Tables. Available online at https://data.census.gov/advanced. Accessed July 16, 2024.

USCB 2023c. Annual Estimates of the Resident Population for Incorporated Places in Wyoming: April 1, 2020 to July 1, 2022 (SUB-IP-EST2022-POP-56). Population Division. May. Available online at https://www.census.gov/data/tables/time-series/demo/popest/2020s-total-cities-and-towns.html.

USFWS (U.S. Fish and Wildlife Service) 1992. "Interim Survey Requirements for the Ute Ladies-tresses Orchid (*Spiranthes diluvialis*)." USFWS Mountain-Prairie Region. Available online at https://www.fws.gov/sites/default/files/documents/SPDI_interimSurveyRequirements_1992_revised%202017.pdf. Accessed August 26, 2024.

USFWS 2022. IPaC: Information for Planning and Consultation. Available online at https://ipac.ecosphere.fws.gov/. Accessed June 2022.

USFWS 2024. ECOS (Environmental Conservation Online System). FWS-Listed U.S. Species by Taxonomic Group - All Animals. Available at https://ecos.fws.gov/ecp/report/species-listings-by-tax-group?statusCategory=Listed&groupName=All%20Animals. Accessed August 26, 2024.

Valerio, H. 2024. Mayor of Granger and Granger Fire Chief, Town of Granger. Number of Firefighters and EMS Staff serving Granger Residents. Personal Communication with N. Hill, Tetra Tech. May 21.

Vilos, J. 2024. Clerk Treasurer and VFD volunteer, City of LaBarge. Number of Firefighters and EMS Staff serving LaBarge Residents. Personal Communication with N. Hill, Tetra Tech. May 21.

West Soda LLC 2024. "Wyoming Industrial Development Information and Siting Act Section 109 Permit Application. Project West Solution Mine and Soda Ash Plant. February." Available online at https://deq.wyoming.gov/industrial-siting-2/council/. Accessed September 4, 2024.

WWDC (Wyoming Water Development Commission) 2022. "State of Wyoming 2022 Public Water System Survey Report." Available online at https://wwdc.state.wy.us/watsys/2022/raterept.html. Accessed November 16, 2022 and September 22, 2024.

WYDEQ (Wyoming Department of Environmental Quality) Undated. Water Quality Assessment Program. https://deq.wyoming.gov/water-quality/watershed-protection/water-quality-assessment/. Accessed July 13, 2023.

WYDEQ 2019. Wyoming Department of Environmental Quality. Water Quality Division. WYPDES (Wyoming Pollutant Discharge Elimination System) Program. City of Rock Springs. Available online at https://deq.wyoming.gov/water-quality/wypdes/. Accessed November 17, 2022 and September 22, 2024.

WYDEQ 2022a. 202Water Quality Division. WYPDES (Wyoming Pollutant Discharge Elimination System) Program. City of Evanston. Available online at https://deq.wyoming.gov/water-quality/wypdes/. Accessed November 18, 2022 and September 22, 2024.

WYDEQ 2022b. Water Quality Division. WYPDES (Wyoming Pollutant Discharge Elimination System) Program. City of Green River. Available online at https://deq.wyoming.gov/water-quality/wypdes/. Accessed November 18, 2022 and September 22, 2024.

WDFPES (Wyoming Department of Fire Protection and Electrical Safety) 2021. "Fire Service Directory." Available online at https://wsfm.wyo.gov/training/fire-service-directory. Accessed November 30, 2022.

WDOE (Wyoming Department of Education) 2021. "Statistical Report Series No. 3. 2020-21 Wyoming School Districts' Financial Reporting and Profile." Available online at

https://portals.edu.wyoming.gov/Reports/(S(clik3ga5hxzuwn1yzxrfdwh1))/Public/wde-reports-2012/finance/stat-3. Accessed September 13, 2022.

WDOE 2023. "Statewide Payment Models, Wyoming School Foundation Program Guarantee, Entitlement and Recapture Calculations, Fiscal Year 2022." Available online at https://edu.wyoming.gov/for-district-leadership/ school-foundation/. Accessed October 27, 2023.

WDOE 2024a. "Wyoming Statistical Report Series Stat 3 – School District Financial Profiles, Wyoming School Districts' Financial Reporting and Profile." Available online at https://portals.edu.wyoming.gov/Reports/(S(vngtysn24topqfwzq5hjofg1))/Public/wde-reports-2012/finance/stat-3. Accessed May 10, 2024.

WDOE 2024b. "Wyoming Statistical Report Series Stat 2 – School District Enrollment and Staffing Data." Available online at https://edu.wyoming.gov/data/statisticalreportseries-2/. Accessed May 8, 2024.

WDOH 2023. (Wyoming Department of Health). Wyoming Hospitals and Trauma Regions. Available online at https://health.wyo.gov/wp-content/uploads/2023/08/Regions-map-with-Trauma-Regions-8-2023.png. Accessed May 2, 2024.

WDOH 2024a. Wyoming Healthcare Facility Directory (updated April 29, 2024). Available online at https://health.wyo.gov/aging/hls/healthcare-facility-directory/. Accessed April 30, 2024.

WDOH 2024b. Trauma Center Designation. Available online at https://health.wyo.gov/publichealth/ems/wyoming-trauma-program/trauma-center-designation-2/. Accessed May 2, 2024.

WDOR (Wyoming Department of Revenue) 2022a. "Sale/Use and Lodging Tax Rates by Locality Effective Date 04/01/2022." Available online at https://revenue.wyo.gov/divisions/excise-tax/excise-tax-publications/excise-tax-rate-charts. Accessed April 13, 2022.

WDOR 2022b. "State of Wyoming Department of Revenue, 2021 Annual Report, Revised." Available online at https://revenue.wyo.gov/about-us/dor-annual-reports. Accessed April 6, 2022.

WEAD (Wyoming Department of Administration and Information, Economic Analysis Division) 2019. "Wyoming Population Estimates and Forecasts." Available online at http://eadiv.state.wy.us/pop/pop.html. Accessed December 8, 2022.

WEAD 2021. "Wyoming Sales, Use, and Lodging Tax Revenue Report." Available online at http://eadiv.state.wy.us/s&utax/Report_FY21.pdf. Accessed May 27, 2022.

WGFD (Wyoming Game and Fish Department). 2017a. *Wyoming State Wildlife Action Plan*. "Wyoming Species of Greatest Conservation Need" (Introduction). Available online at https://wgfd.wyo.gov/media/1256/download?inline. Accessed May 2024.

WGFD 2017b. Wyoming Sage-Grouse Core Areas v. 4. Available at https://data.geospatialhub.org/datasets/85431bd3eb144b2697932ffa5ef2903d/explore?layer=0 Accessed June 2024.

WGFD 2017c. *Wyoming State Wildlife Action Plan*. "Green River Basin." Available online at https://wgfd.wyo.gov/media/1283/download?inline. Accessed May 2024.

WGFD 2021. Sage-grouse Lek Locations, Digital GIS Dataset Request. Received November 15, 2021, via email correspondence with Nyssa Whiteford.

WGFD 2022. "Places to Fish and Boat in Wyoming. Interactive Wyoming Fishing Guide." Available online at https://wgfd.wyo.gov/Fishingand- Boating/Places-to-fish-in-wyoming. Accessed April 22, 2022.

WGFD 2023a. Sage-grouse Lek Locations, Digital GIS Dataset Request. Received February 27, 2023, via email correspondence with Nyssa Whiteford.

WGFD 2023b. Antelope Crucial Range. Wyoming Game and Fish Open Data. Available online at https://wyoming-wgfd.opendata.arcgis.com/datasets/5ce8eaffcd4e47b99a0164bb81881d36_0/explore?location=41.589278%2C-110.302082%2C10.48. Accessed September 15, 2024.

WGFD 2023c. "Frequently Asked Questions. General Hunting." Available online at https://wgfd.wyo.gov/FAQ/General-Hunting-and-Trapping- FAQ. Accessed January 12, 2023.

WGFD 2023d. "Hunter Management Areas." Available online at https://wgfd.wyo.gov/Public-Access/Hunter-Management-Areas. Accessed February 20, 2023.

WGFD 2023e. "Bear River Divide Hunter Management Areas - 2023." Available online at https://wgfd.wyo.gov/Public-Access/Hunter-Management-Areas/Bear-River-Divide. Accessed August 3, 2023.

WGFD 2024. "Antelope Migration Identified Sublette WGFD Corridor." *Wyoming Game and Fish Open Data.* Available at https://wyoming-wgfd.opendata.arcgis.com/datasets/83228b51962f4ca18c9e1cf961b6748a_0/about. Accessed August 26, 2024.

Williams et.al. 2022. Williams, A.P., B.I. Cook and J.E. Smerdon. "Rapid intensification of the emerging southwestern North American megadrought in 2020–2021." *Nat. Clim. Change*. 12, 232–234. https://doi.org/10.1038/s41558-022-01290-z.

WLSO (Wyoming Legislative Service Office) 2022a. "2023 Budget Fiscal Data Book." December. Available online at https://wyoleg.gov/2023/Databook/Historical/2023%20Data%20Book.pdf. Accessed July19, 2024.

WLSO 2022b. "Subject: Topic Summary: Industrial Siting." Memorandum from B. Fuller, Senior Staff Attorney, WLSO, to Joint Minerals, Business & Economic Development Interim Committee, WLSO. Accessed April 8, 2022.

WOHS (Wyoming Office of Homeland Security) 2019. "County Coordinators." Available online at https://hls.wyo.gov/contacts/county-contacts. Accessed November 29, 2022.

Wright 2022. "RV Park Utilization." Personal communication between N. Hill (Tetra Tech) and M. Wright (Kettle Restaurant and Base Camp RV Park). December 27, 2022.

WSCD (Wyoming State Construction Department) 2023. "School Facilities Commission. 2023 Annual Report and 2025-2026 Biennial Budget Request." Available online at https://wyoleg.gov/InterimCommittee/2023/SSF-2023091410-02_2023AnnualReport8.30.23.pdf. Accessed May 9, 2024.

WSHPO (Wyoming State Historic Preservation Office) 2022. "National Register by County, Lincoln County." Available online at https://wyoshpo.wyo.gov/index.php/nr-by-county-test/15-lincoln-county. Accessed April 14, 2022.

WSHS (Wyoming State Historical Society) Undated. The Online Encyclopedia of Wyoming History. Available online at https://www.wyohistory.org/encyclopedia. Accessed January 19, 2023, and February 9, 2023.

WTA (Wyoming Taxpayer's Association) 2021. "Wyoming Tax Summary and How Wyoming Compares." Available online at http://wyotax.org/wp-content/uploads/2021/11/WTA-How-Wyoming-Compares-2021.pdf. Accessed April 1, 2022.

WWDC (Wyoming Water Development Commission) 2010. "Green River Basin Plan." Prepared for Wyoming Water Development Commission Basin Planning Program. December 2010. Available online at https://waterplan.state.wy.us/plan/green/2010/finalrept/finalrept-GRB.pdf.

WWDC 2022. "State of Wyoming 2022 Public Water System Survey Report." https://wwdc.state.wy.us/watsys/2022/raterept.html. Accessed November 16, 2022 and September 22, 2024.

WYDOT (Wyoming Department of Transportation) 2023. "WYDOT receives $24.3 million federal grant for Kemmerer wildlife crossing project." Available online at https://www.dot.state.wy.us/news/wydot-receives-243-million-federal-grant-for-kemmerer-wildlife-crossin#:~:text=In%20a%20victory%20for%20transportation%20safety%20and%20wildlife%2C,Project%20on%20U.S.%20Highway%20189%20in%20southwest%20Wyoming.

WYDOT 2024a. "Kemmerer Wildlife Crossing Project On Track For Summer 2025 Construction." Available online at https://wgfd.wyo.gov/news-events/kemmerer-wildlife-crossing-project-track-summer-2025-construction.

WYDOT 2024b. "2023 Vehicles Miles Book." Available online at https://www.dot.state.wy.us/home/planning_projects/Traffic_Data.html. Accessed August 25, 2024.

WYDOT 2024c. Access Permit – LN-02A-48658, Route US 189, Mile Point 29.31 RT. April 23, 2024.

WYNDD (Wyoming Natural Diversity Database) 2024a. Data Explorer: Coccyzus americanus (Yellow-billed Cuckoo). Available online at https://wyndd.org/portal/apps/data_explorer/pro/map. Accessed August 2024.

WYNDD 2024b. Monarch Butterfly – Danaus plexippus. Wyoming Field Guide. Available online at https://fieldguide.wyndd.org/?species=danaus%20plexippus. Accessed August 2024.

Wyoming Department of Fire Prevention and Electrical Safety. 2021. Fire Department Directory – 2021. Available online at https://wsfm.wyo.gov/training/fire-service-directory.

Wyoming Wildlife Foundation. 2015. "A Wyoming Landowner's Handbook to Fencing and Wildlife" (Second Edition). Available at https://wyomingwildlifefoundation.org/wp-content/uploads/2021/04/Fencing-Guide.pdf. Accessed September 20, 2024.

APPENDIX A – TerraPower Natrium Project Programmatic Analysis

February 2025

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
DOE	U.S. Department of Energy
EA	Environmental Assessment
FFF	Fuel Fabrication Facility
GNF	Global Nuclear Fuels
KTC	Kemmerer Training Center
KU1	Kemmerer Unit 1
NEPA	National Environmental Policy Act
NFFF	Natrium Fuel Fabrication Facility
NRC	U.S. Nuclear Regulatory Commission
TFF	Sodium Test and Fill Facility

1.0 BACKGROUND

This Environmental Assessment (EA) analyzes programmatic and site-specific actions Agencies may prepare a single NEPA document to support both programmatic and project-specific proposals. Such an approach may be appropriate when an agency plans to make a broad program decision, as well as timely decisions to implement one or more specific projects under the program, which is the case for this EA. The EA discloses programmatic decisions that are supported by this NEPA document, including several programmatic actions that may require additional NEPA compliance once the scope and design for these actions are sufficiently developed, and separately, actions that are site-specific and fully covered by this NEPA review. These actions are addressed generally in Table 1 and are described in detail in the sections that follow.

Table 1 NEPA Compliance Status for Programmatic Actions and Site-specific Actions Covered in this EA

Type of Action	Specific Action	NEPA Compliance
Programmatic Actions	Training Center	Additional site-specific NEPA compliance would be completed as appropriate.
	Fuel Fabrication Facility	Additional site-specific NEPA compliance would be completed as appropriate.
	Kemmerer Unit 1	Additional site-specific NEPA compliance would be completed as appropriate.
Site-Specific Actions	Sodium Test and Fill Facility	Compliance covered in DOE/EA-2217.
	Preliminary Activities	Compliance covered in this NEPA review.

2.0 PROGRAMMATIC ACTIONS COMMON TO ALL ACTION ALTERNATIVES

Under all of the action alternatives considered, the following programmatic actions would be implemented. The information on the programmatic actions described below would likely change as the Kemmerer Unit 1 (KUI) Project becomes more refined for detailed analysis in a subsequent NEPA review. Some of these actions may require site-specific NEPA reviews in the future prior to implementation, as noted below.

2.1 Programmatic Actions

2.1.1 Training Center

The Kemmerer Training Center (KTC) would be the location of training for nuclear personnel of Kemmerer Unit 1 and initial training for subsequent units in the Natrium Reactor Plant fleet. The KTC would be located south of the Kemmerer Unit 1 and would include a parking lot of approximately 142 spaces. The building is proposed as an approximately 37,000 square foot, two story structure . The KTC would be located next to Kemmerer Unit 1 and would utilize the same access road. The facility would

require data fiber, water, storm and sewer access, and electrical power. The KTC would house the simulator, which is a mockup of the Main Control Room, and would serve as the location where control room operators practice operating the plant and perform the simulator portion of the initial license and requalification exams. The KTC would also contain the necessary space for licensed operators, non-licensed operators, electricians, mechanics, technicians, stations sciences (Radiation Protection and Chemistry), and site engineering personnel to be trained in a lab and classroom environment. The building would also contain space for instructors and training administrative staff to perform their day-to-day work. To facilitate technical training, four labs would be required—one each for electricians, mechanics, instrumentation and control technicians, and station sciences personnel. Projected staffing during normal operation is 70 personnel. During refueling outages, every one or two years, approximately 800 craft workers would in-process and train in the KTC. During peak training times, the KTC may be utilized on multiple shifts each day.

2.1.2 Fuel Fabrication Facility

The Global Nuclear Fuels (GNF) GNF-A Wilmington facility is situated on a 1,664-acre tract of land, located on North Carolina (NC) Highway 133 (also known as Castle Hayne Road) and is approximately six miles north of the City of Wilmington in New Hanover County, North Carolina. GNF-A plans to design, license, and construct a standalone Category II fuel fabrication facility, the Natrium Fuel Fabrication Facility (NFFF), for the Natrium demonstration reactor within an existing controlled access area at its facility in Wilmington, North Carolina. Currently, a U.S. Nuclear Regulatory Commission (NRC)-licensed uranium fuel fabrication facility at the proposed site of the Category II HALEU facility is authorized to process uranium with an enrichment of up to 5 wt% U-235 (NRC License No. SNM-1097). GNF-A would request a license amendment from NRC to permit nuclear fuel fabrication at enrichments of up to 20.0 wt% U-235 and authorize operation of the NFFF.

2.1.3 Kemmerer Unit 1

The KU1 site would be located on approximately 334 acres in a portion of Sections 19 and 20, Township 20 North, Range 116 West, P.M, Lincoln County, Wyoming, in the vicinity of the city of Kemmerer. The site would be accessed from US Highway 189. The U.S. Department of Energy (DOE) is responsible for analyzing potential impacts during preliminary activities, and the NRC is responsible for the NEPA review and licensing for the construction of KU1. Construction is scheduled to begin in March 2025 with an estimated peak construction workforce of 1,117 over an 18-month schedule for preliminary activities. The total potentially disturbed area would be approximately 217 acres out of the 334-acre site.

The KU1 plot plan comprises five primary areas (pads) as follows: nuclear island, energy island, balance of plant, construction support facilities, and linear facilities. DOE's analysis would likely focus on the following preconstruction activities: layout, benchmarks, erosion control; clear and grub drains; mass excavation and backfill; construction of reactor fabrication building; temporary construction power distribution/set up trailers; install temporary power distribution; reactor building-excavate to top of shaft; reactor aux bldg./spent fuel handling bldg. excavation; turbine facility excavation/install underground services (circulating water pipe); turbine facility; energy island; fire water tanks; demin water tank/ condensate mu tank excavate/prep area; energy island support building excavation and backfill; install concrete batch plant; install stormwater management ponds; and establish first phases of parking lot.

2.2 Affected Environment

The affected environment would be the same for the Training Center and KU1 programmatic actions as the Sodium Test and Fill Facility (TFF) site-specific analysis.

The affected environment for the Fuel Fabrication Facility (FFF) would be similar to how it was described in an EA that was prepared in 2008, and a "finding of no significant impact" was issued in 2009 by the NRC for the Renewal of NRC's License No. SNM-1097 for GNFs Wilmington Fuel Fabrication Facility and is hereby incorporated by reference. The FFF would be in a rural agricultural land between the Northeast Cape Fear River and the main branch of the Cape Fear River, which is zoned for heavy industrial use. The primary transportation corridor to the GNF-A site is I-40. The pollutant concentration levels in New Hanover County are in attainment for all National Ambient Air Quality Standards criteria pollutants. Two primary aquifers lie below the area where the GNF-A site is located: the "shallow" or water table aquifer and the "deep" or principal aquifer that lies below the shallow aquifer. The GNF-A site wells produce process and potable water from the principal aquifer, which is also known as the Peedee aquifer. Wetland areas are located around the GNF-A property. GNF-A operations have affected soil and sediment quality. Corrective actions were implemented in 1995 to reduce the volume of contaminated material in the storage pad areas. Due to these actions, uranium soil concentrations have remained relatively constant since 1995. From 1995 to 1997, the average annual uranium soil concentrations in the storage pad areas ranged from 3.2 to 16.1 ppm [7.4 to 37 pCi/g] (GNF-A, 2007b). Soil sampling in this area was discontinued in 1998.

According to the U.S. Forest Service, the New Hanover County area is in the Atlantic Coastal Flatlands ecoregion with the dominant vegetation communities composed mainly of southern mixed forest and oak-hickory-pine forest. Numerous animal species can be found in the region including game birds, migratory waterfowl, songbirds, mammals, reptiles, fish, and amphibians. Nine federal-listed species can potentially be found in New Hanover County. Archeological site maps at the North Carolina Office of State Archeology and documentation from GNF-A indicate that six previously recorded terrestrial archeological sites are located on the GNF-A site and a submerged archeological site is located adjacent to the site property in the Northeast Cape Fear River. A search of the National Register of Historic Places database confirmed 19 prehistoric and historic listings in New Hanover County.

2.3 Environmental Consequences

2.3.1 Impacts of Programmatic Actions Common to Alternatives B, C, and D

Programmatic actions for the TFF, KTC, FFF, and KU1 would likely affect land use, cultural and historic properties, hydrological resources, ecological resources, accidents and hazards, infrastructure, traffic, and transportation. The degree to which these impacts would vary by the activity and the final scope of the activity. DOE would complete any necessary consultations including, but not limited to, Section 7 of the *Endangered Species Act* and Section 106 of the *National Historic Preservation Act*. It can be assumed that the programmatic actions would potentially impact the flow of traffic on nearby roadways, require new or improved infrastructure, remove or permanently alter habitat, affect migration patterns for wildlife species, introduce invasive species, cause erosion or removal of hydrological features, and change future land use. The site-specific analysis would provide details on the impacts of each action and the applicable resource area.

2.3.2 No Action Alternative

Under the No Action Alternative, no programmatic actions would occur and, therefore, there would be no impacts to resource areas.

APPENDIX B – Socioeconomic Report For Preliminary Activities

February 2025

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ACRONYMS AND ABBREVIATIONS

Acronyms	Definition
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
HMA	Hunter Management Area
LCSD1	Lincoln County School District 1
NAICS	North American Industrial Classification System
RV	recreational vehicle
SFP	School Foundation Program
TerraPower	TerraPower, LLC
UCSD1	Uinta County School District 1
USCB	U.S. Census Bureau
WDOR	Wyoming Department of Revenue
WEAD	Wyoming Economic Analysis Division

1.0 INTRODUCTION

This socioeconomic report is prepared in support of the Proposed Action. The report presents the socioeconomic impacts of preliminary activities under the Proposed Action on local municipalities and their associated counties.

The Project site is located 5 to 10 miles south of the city of Kemmerer and town of Diamondville. Industrial facilities near the Project site include the PacifiCorp Naughton Power Plant (Naughton Plant) and the Kemmerer Operations coal mine. To predict the residential distribution of the in-migrating Project workforce, the availability of temporary and permanent housing in the Socioeconomic Analysis Area (also referred to as the "Study Area" throughout) was used. Based on the housing analysis presented in the impact section of this report, it was determined that most in-migrating employees would live in Lincoln, Uinta, or Sweetwater Counties. The municipalities in the southern half of Lincoln County, all of Uinta County, and the western half of Sweetwater County form the area of impact (hereafter known as the Study Area) for this project because they are within daily driving distance of the Project area. The largest cities in each of these counties are Kemmerer/Diamondville (Lincoln County) and Evanston (Uinta County) and Green River and Rock Springs (Sweetwater County). Figure 1 illustrates regional commute times from the municipalities in the Study Area to the Project area.

Most population and housing-related data are from the U.S. Census Bureau (USCB). Most economic data are from the U.S. Bureau of Economic Analysis and the U.S. Bureau of Labor Statistics. Data used in these analyses may reflect some of the economic disruptions and data collection complications caused by the Covid-19 pandemic. Where appropriate, 2019 data are included in the analysis to provide a pre-Covid baseline, against which, 2020 through 2024 data can be compared.

2.0 CURRENT SOCIOECONOMIC ENVIRONMENT

2.1 Population

Wyoming is a state with geographically large counties and sparse population. Table 1 presents USCB Decennial Census trend data for the Study Area. Table 2 presents the Wyoming Economic Analysis Division's (WEAD) most current population forecasts for the Study Area (which are based on Decennial Census 2010 data).

Based on USCB data, from 2010 to 2022, the populations of Lincoln, Uinta, and Sweetwater Counties had average annual growth rates of 0.7 percent, -0.2 percent, and -0.3 percent, respectively. Lincoln County's municipalities experienced average annual growth rates ranging from -6.1 percent in LaBarge to -0.1 percent in Kemmerer for the same period. Uinta County's municipalities experienced average annual growth rates ranging from -1.6 percent in Lyman to 4.4 percent in Bear River for the same period. Sweetwater County's municipalities experienced average annual growth rates ranging from -0.5 percent in Green River to 0.1 percent in Rock Springs for the same period. The Study Area experienced an average annual growth rate of -0.2 percent.

The WEAD forecasts population growth for the state's counties and municipalities (Table 2). From 2020 to 2030, Lincoln County and its municipalities are projected to experience average annual growth rates of 0.9 percent. In Uinta and Sweetwater Counties and their municipalities, average annual growth rates

are projected to decline by about -0.3 percent. From 2030 to 2040, WEAD forecasts show average annual growth rates of 0.4 percent for Lincoln County and its municipalities, 0.04 percent for Uinta County and its municipalities, and 0.1 percent for Sweetwater County and its municipalities. The Study Area population is predicted to grow at average annual growth rates, ranging from -0.2 percent in 2010 to 2020 to 0.1 percent by 2030 to 2040. The state of Wyoming population is predicted to grow at average annual growth rates of 0.3 percent over each of the same decades. Note: WEAD forecasts are based on the 2010 decennial census. At the time the forecasts were calculated, 2020 decennial census results were not available. At this time, these forecasts have not been updated using 2020 Census data.

2.2 Economy

The Study Area's principal economic centers include: Kemmerer and Diamondville (Lincoln County), Evanston (Uinta County), and Green River and Rock Springs (Sweetwater County). The city of Kemmerer and town of Diamondville are directly adjacent to one another and can operate as one economic unit. In population, Rock Springs is the largest city within the Study Area.

The southern part of Lincoln County is dominated by open plains, grazing and rangelands, and the industrial facilities of the Kemmerer/Diamondville area. The county’s economy has some dependence on the energy industry: coal, oil, and natural gas mining and production (ZBPF 2012). County residents refer to the Kemmerer/Diamondville area as the county’s “economic engine” (ZBPF 2012).

Uinta County, located south of Lincoln County, is a 90-minute drive from Salt Lake City and has economic linkages to the city. Evanston, the county’s largest city, is in the southwest corner of the county, adjacent to the I-80 corridor, which travels from Salt Lake City to eastern Wyoming and beyond.

Sweetwater County, located east of Lincoln and Uinta Counties, contains the two largest cities in the Study Area: Green River and Rock Springs. Both cities are located along I-80 and about 65 to 90 minutes from the Project site. Most Sweetwater County residents (over 80 percent) live in one of these two cities (Table 1).

Table 3 presents labor force and unemployment trends in the three counties in the Study Area, as calculated by the Bureau of Labor Statistics (BLS). In 2023, the Study Area labor force totaled 39,140 persons, representing about 13.3 percent of the total Wyoming labor force. Between 2013 and 2023, the Study Area labor force decreased at an average annual rate of -0.6 percent, while the state's labor force decreased at an average annual rate of -0.2 percent. Sweetwater County provides over 51 percent of the Study Area labor force. The remaining labor force is roughly split between Lincoln and Uinta Counties. In 2023, 1,248 persons in the Study Area were unemployed, reflecting an average annual decline of -4.7 percent from 2013, when unemployment reached 2,029. The 2023 annual unemployment rate in the Study Area was 3.2 percent. The 2023 unemployment rates in Lincoln County, Uinta County, Sweetwater County, and Wyoming were 2.9 percent, 3.2 percent, 3.3 percent, and 2.9 percent, respectively.

The Bureau of Economic Analysis (BEA) reports employment data by industry (as defined by the North American Industrial Classification System [NAICS]). Table 4 presents regional and state employment, by industry, for 2019 and 2022. In 2022, local government provided 13.4 percent of jobs in the Study Area, while retail trade provided 11 percent. Construction and mining, quarrying, and oil and gas extraction provided approximately 9.4 and 8.6 percent of jobs, respectively. Real estate/rental/leasing and healthcare and social assistance were also important industries.

At the state level, local government, retail trade, accommodation/food services, and finance and insurance were the largest providers of jobs, at 10.3 percent, 9.1 percent, 8.4 percent, and 8.1 percent, respectively. Real estate/rental/leasing and construction were also important industries.

Notably, wage and salary employment (jobs) in Uinta County, Sweetwater County, and the state of Wyoming declined, from 2019 to 2022. This may be attributed, in part, to the socioeconomic effects of the Covid-19 pandemic. Only Lincoln County improved, increasing by 436 jobs.

In its Quarterly Census of Employment and Wages, the BLS collects employment and wage data by NAICS industrial sector. Table 5 presents NAICS Sector 237 Heavy and Civil Engineering Construction data and Table 6 presents NAICS Sector 221113 Nuclear Electric Power Generation data. Data are presented for the Study Area, Wyoming, and the US in 2023. As Table 5 shows, annual average wages, in Heavy and Civil Engineering Construction, were $63,046 in Lincoln County, $84,974 in Uinta County, and $69,673 in Sweetwater County, compared to $79,772 in Wyoming and $90,726 in the U.S. As Table 6 shows, annual average wages in Nuclear Electric Power Generation were $160,830 in the U.S. There were no data reported for Wyoming and its counties, presumably because there are no existing nuclear electric power generation facilities in Wyoming.

Wyoming is a "right-to-work" state; workers are not required to join labor unions as a condition of employment. In 2021, approximately 5.7 percent of the Wyoming workforce was unionized (BLS 2022). Nationally, the greatest concentration of unionized workers is in the governmental (public) sector (BLS 2022).

Personal income provides a useful means for comparing worker wages in an industry to a county's total personal income. In 2022, Lincoln, Uinta, and Sweetwater Counties' total annual personal incomes were $1,305,617,000, $927,386, 000, and $ 2,413,486,000, respectively (BEA 2023b).

2.3 Housing

Housing data are divided into two major categories, permanent housing (housing for permanent residents) and temporary housing (housing for transient workers/visitors).

2.3.1 Permanent Housing

In the Study Area, residential areas are found in cities, towns, and smaller communities. Housing is concentrated in the largest municipalities of each county: Kemmerer/Diamondville (Lincoln County), Evanston (Uinta County), and Green River and Rock Springs (Sweetwater County).

Counties

Table 7 presents the number of housing units and housing unit vacancies in the counties in the Study Area for 2022. Of the 37,620 total units in the Study Area, 16.1 percent were vacant (6,070 units). Vacancy rates for homeowners ranged from 1.2 percent in Sweetwater County to 1.7 percent in Lincoln County. Vacancy rates among rental units were substantially higher, ranging from 1.8 percent in Lincoln County to 17.4 percent in Sweetwater County.

Municipalities

Table 8 presents the number of housing units and housing unit vacancies for the largest municipalities in the Study Area in 2022. Kemmerer and Diamondville had 1,748 units, of which 199 were vacant (11.4 percent). Evanston had 5,330 units, of which, 702 were vacant (13.2 percent). Vacancy rates for homeowners ranged from 1.1 percent in Rock Springs to 3.3 percent in Kemmerer. Vacancy rates among rental units ranged from 0.0 percent in Diamondville to 21.9 percent in Green River.

Table 9 presents more detail about vacant housing units in the Study Area counties and largest municipalities, in 2022.

2.3.2 Temporary Housing

Hotels and Motels

In 2022, there were 313 hotel or motel rooms in the Study Area municipalities in Lincoln County, 1,036 hotel or motel rooms in Uinta County, and 1,960 hotel or motel rooms in Sweetwater County (STR 2023a). Averaged over 9 years, monthly hotel/motel occupancy rates for the region ranged from 31.7 percent in the month of December to 67.3 percent in in the month of July (STR 2023b). For all counties, there is a gradual increase in occupancy rate, from the winter months to the summer months. During the month of July[1], when the hotel/motel occupancy rate is highest (67.3 percent), the corresponding vacancy rate of 32.7 percent indicates that 1,082 rooms would potentially be available for the Project's workforces.

Recreational Vehicle Parks and Campgrounds

There are recreational vehicle (RV) parks or campgrounds, with full hookups (water, sewer, and electricity) for private RVs, in the Study Area. There are, at least, 230 RV/tent sites in Lincoln County, 199 RV/tent sites in Uinta County, and 1,535 RV/tent sites in Sweetwater County (Gunter 2022, Wright 2022, Braband 2022, Julian 2022, BLM Undated a, Recreation.gov 2022a, BLM Undated b, Recreation.gov 2022b, RV Life 2022, LA 2024, and RV Life 2024). Applying the vacancy rate occurring during the month with the highest occupancy rate during the year (July, at 32.7 percent) to the number of RV/tent sites in Lincoln, Uinta, and Sweetwater Counties (1,964) indicates that 642 sites would potentially be available for the Project workforce.

2.3.3 New Housing

City officials in Kemmerer have indicated that there are a number of new housing projects being proposed in Kemmerer, Diamondville, and Evanston that could provide additional housing for Project workers . Based on recent communications, these developments are summarized as follows:

- Two large residential developments in Kemmerer, the Gateway and Canyon Road developments, which are proposed by the same developer, are presently undergoing planning and zoning review. Recent communication with the developer indicates that they anticipate units will be built and become available to the Project in 2026, with 147 units and 32 units anticipated as part of the Gateway and Canyon Road (Tract 3, multi-family) developments, respectively. Construction is expected to continue with additional units added to these developments as well as units added as

[1] STR data indicate that, during the month of September, the occupancy rate drops to 60.3 percent. To be conservative, however, TerraPower has opted to use the 67.3 percent occupancy rate from the July data.

part of Canyon Road (Tract 2, multi-family) and Canyon Road (Tract 4/5, single-family) developments, with a combined total of 905 units estimated to be finished and available for rent by the final year of Project construction (2030) (Coyle 2024).

- Developments in Kemmerer also include a single-family development of 50 units (Antelope Ridge Phase 1) and three, two-story duplexes (Thurgood), with a total of 24 units (Allen 2024).

- Also in Kemmerer, there are plans to expand the existing Foothills Mobile Home and RV Park. The park presently includes 51 mobile homes and 60 RV spaces. Current plans include the addition of approximately 4 mobile homes per month for a total addition of 65 units, as well as development of an additional 116 RV spaces (Braband 2024).

- In Diamondville, anticipated projects include a planned development of 49-single-family units on ¼ acre lots (Thurgood) (Allen 2024).

- In Evanston (Uinta County), the former Grizzly Inn is being converted to 65 studio and one-bedroom apartments (Anderson 2024).

2.4 Local Taxes

In Wyoming, local governments receive tax revenues from both, state and local taxation. Most state revenue distributed to local governments is generated by sales and use taxes, federal mineral royalties, severance taxes, fuel taxes, and lodging taxes. Most local government revenue is generated by sales and use taxes and property taxes (WLSO 2022a). Property taxes are the primary source of revenue for most counties' general funds, school districts, and special districts (e.g., hospital districts, irrigation districts, community college districts), while sales and use taxes are the primary source of revenue for most municipal governments (WLSO 2022a). (Most lodging taxes are used to promote tourism throughout the state and are not examined in this analysis [WTA 2021]).

Tables 10 and 11 present FY 2021 government revenues for Lincoln County and the city of Kemmerer. In Lincoln County, property taxes are the largest source of revenues, at $7,271,821, or 26.6 percent of total revenues. In Kemmerer, sales and use taxes are, by far, the largest source of revenues at $1,689,508, or 42 percent of total revenues.

Several tax revenue categories would be affected by the Project. Among those are sales and use taxes on construction- and operations-related purchases and personal purchases made by Project-related workers, real property taxes related to the construction of the facility, and real property taxes paid by in-migrating Project-related workers. The following subsections describe the primary tax categories impacted by the Project and their applications in the state of Wyoming; Lincoln, Uinta, and Sweetwater Counties; and the city of Kemmerer.

2.4.1 Corporate and Individual Income Taxes

There are no individual or corporate income taxes in Wyoming (W.S. 39-12-101).

2.4.2 Sales and Use Taxes

State and Local Sales and Use Taxes

Wyoming imposes a 4 percent, statewide, sales and use tax, of which, 69 percent is directed to the state general fund and the remainder is distributed to the county of origin (WLSO 2022a). The distribution between each county and its municipalities is determined using a population-based formula (WEAD 2021). Sales and use taxes are collected by vendors and remitted to the Wyoming Department of Revenue (WDOR) (WTA 2021).

Counties can levy a maximum of 2 percent in sales and use tax for general purposes and a maximum of 2 percent for specific purposes, but the local tax rate cannot exceed 3 percent (W.S. 39-15-204). Optional general purpose tax revenue, less administrative costs, is returned to the county of origin and distributed between the county and its municipalities using the same population-based formula (WEAD 2021).

Lincoln, Uinta, and Sweetwater Counties and their municipalities collect a general-purpose county tax of 1 percent, in addition to the state's 4 percent sales and use tax. There are no municipalities in the Study Area that impose their own sales or use tax. (WDOR 2022a)

Table 12 presents sales and use tax collections for the Study Area counties and the state, fiscal years 2011 through 2021. The following trends are noted for sales and use tax revenues. Lincoln County sales and use tax revenues grew at an average annual rate of 2 percent per year, from 2011 to 2021, while Wyoming's sales/use tax revenues grew at an average annual rate of 1.4 percent, for the same period. Uinta County revenues also increased, albeit, at a slower rate (0.7 percent average annual increase), while Sweetwater County collections experienced a significant decrease, at an average annual decline of -2.9 percent.

Impact Assistance Payment Program

Wyoming statutes in Title 35, Chapter 12, provide for financial assistance for local governments that host major construction projects within their boundaries. This is administered through the WDEQ's Industrial Siting Division. The Division's Industrial Siting Council oversees the provision of economic impact assistance payments that are designed to assist local governments in mitigating construction project impacts to their community resources.

With input from affected counties and their municipalities, the Wyoming Industrial Siting Council determines the size of an impact assistance payment. House Bill 47 defines the maximum impact assistance payment amount, as a percentage of project materials costs, as follows (WLSO 2022b):

- For industrial facilities with total estimated materials costs of $350,000,000 or less, the maximum allowable percentage is 2.25 percent, except that the Council may increase the maximum allowable percentage to 2.76 percent if the Council specifically finds that 2.25 percent is insufficient to mitigate the identified impacts.

- For industrial facilities with total estimated materials costs greater than $350,000,000 but less than $850,000,000, the maximum allowable percentage is 2 percent.

- For industrial facilities with total estimated materials costs of $850,000,000 or more, the maximum allowable percentage is 1.5 percent.

None of the maximum payments exceed 2.76 percent of a construction project's total estimated material costs. The amount, 2.76 percent, represents the State's share of the four percent sales and use taxes generated by the project (69 percent of 4 percent is 2.76 percent). In essence, the State returns part, or all, of its share of the sales and use taxes generated by the project to the communities that are most impacted by the project. These funds are transferred from the State's General Fund to the county treasurer, who distributes the funds to the county and municipalities based on a ratio decided by the Industrial Siting Council (WDOR 2022b, and WDEQ Rules, Chapter 1).

2.4.3 Property Taxes

Property taxing jurisdictions include the state, counties, cities, schools, and special districts (WTA 2021). Each jurisdiction establishes a budget that informs its mill levy for the year. Levies are imposed, as defined by Wyoming statutes. Taxes are distributed, based on the assessed valuation of the property within the geographical boundary of each taxing jurisdiction (WTA 2021).

County tax assessors assess the value of most property, but the WDOR assesses the values of mines, rail car companies, public utilities, pipelines, and tele communications companies. County treasurers collect the taxes and distribute collections to the taxing jurisdictions (WTA 2021).

Real and personal property are assessed using fair market value, less exemptions and exclusions. Fair market value is determined by using one or more of the three following appraisal methods: sales comparison or market; cost (replacement, reproduction, or historical); and income capitalization (WDOR Rules, Ch. 9, Sect. 5, pp. 9-6 and 9-7). Current assessment ratios, based on property type, are as follows: minerals and mine products—100 percent; industrial property, real and personal—11.5 percent; all other property (including agricultural), real and personal—9.5 percent (WTA 2021).

Wyoming no longer levies property taxes for state operations. Wyoming does, however, levy a property tax to fund the state's School Foundation Program (SFP), one of the state's two education equalization programs. For the SFP, the state can collect a total of 12 mills[2], based on the assessed value of all property in the state. The amount of funding each school district receives from the SFP is a function of the school finance system's funding model as well as the characteristics of the district's schools, staff, and students (WLSO 2022a). In FY 2021, over $235 million in revenues were levied for this program (WDOR 2022b).

County governments can assess up to 12 mills on the taxable value of property in the county (WLSO 2022a). Cities and towns are limited to 8 mills on the property located within municipal limits. For local school districts, the county can collect a total of 6 mills on property in the county. A school district must levy 25 mills on the property within the district (WLSO 2022a). Community colleges can levy up to 10 mills. The largest single source of revenue for K-12 education is usually local property taxes (WLSO 2022a). Special district levy maximums depend on the type of special district[3].

[2] Mill means $1 of taxes for every $1,000 of assessed value. A mill is applied to the assessed value of property to determine the tax due.

[3] Pursuant to W.S. 39-13-104(e) and (f), special districts include hospital (6 mill max.), cemetery (3 mill max.), fire protection (3 mill max.), sanitary and improvement (1 mill max.), museum (1 mill max.), solid waste removal (3 mill max.), weed and pest (2 mill max.), water and sewer (8 mill max.), water conservancy (1 mill max.), rural health care (4 mill max.), soil and water conservation (1 mill max.), senior citizen services (2 mill max.), senior health care (2 mill max.), flood control (12 mill max.), and rural county (1 mill max.) districts. (WLSO 2022a).

Table 13 presents tax levy data for Lincoln, Uinta, and Sweetwater Counties, tax years 2011 and 2019 through 2021. In Lincoln County, average mill levies increased, while total revenues decreased over the 10-year period. In both Uinta and Sweetwater Counties, average mill levies and total revenues decreased over the 10-year period. Sweetwater County's revenues decreased the most, aided by a reduction of over $27 million from 2020 to 2021.

Table 14 presents school district revenues and sources for the 2019–2020 and 2020–2021 school years for Lincoln County School District 1 (LCSD1) and Uinta County School District 1 (UCSD1). LCSD1 would be the districts hosting the Project and many of the Project workforce children, as its boundaries encompass most of Kemmerer and Diamondville. UCSD1 is the district that includes Evanston and its outlying areas. It would be the district most likely to host the largest group of Project workforce children. Local property tax revenues represent the largest source of operating revenue funding for LCSD1. The state represents the largest source of revenues for UCSD1.

For the 2020–2021 school year, LCSD 1 received $10,748,651 in local revenues, most of which are from property taxes. Local revenues were the district's largest source of revenues. Uinta School District 1 received $6,711,417 in local revenues, but the state provided most of the district's revenues at $34,227,813. Wyoming's K-12 education system is primarily funded by state and local property taxes. In the 2021–2022 funding year, LCSD1 and UCSD 1 were both dependent on the state to supplement their local revenues to meet their guarantees (WDOE 2023).

TerraPower has acquired about 334 acres of land for construction of the Project (parcel 20161910002800). The Project site was formerly part of a larger parcel (20160210001700) owned by PacifiCorp. In 2021, the assessment ratio for the PacifiCorp parcel was 9.5 percent. The total mill levy was 65.13 mills, representing eight taxing jurisdictions.

- Lincoln County School District 1: 46.40
- Lincoln County: 12
- South Lincoln Hospital: 4.0
- South Lincoln Special Cemetery District: 0.967
- Weed and Pest: 0.905
- South Lincoln Fire: 0.555
- Kemmerer Senior Ctr: 0.30
- Lincoln Conservation: 0

At 46.6 mills, the LCSD1 levy represents about 71 percent of the total mill levy. At 12 mills, the Lincoln County levy represents about 18 percent of the total mill levy. The remaining taxing jurisdictions' mill rates are significantly smaller.

Actual property taxes paid by PacifiCorp for this land are unavailable because the WDOR assessed PacifiCorp's property holdings across the state as one unit. Thus, for this analysis, the total mill rate (65.13) has been applied to the land's 2021 assessed value for an approximation of the taxes paid for the 334-acre property. The calculated approximation of the payment made by PacifiCorp is about $200.

2.5 Recreation

Major recreation and tourism opportunities within the 10-mile vicinity of the Project site are listed below. There are no National Parks, State parks, or wildlife habitat management areas within a 10-mile radius of

the Project site. There are, however, numerous public lands and one Hunter Management Area (HMA) that can be used for hunting (see below).

Fossil Butte National Monument and Visitor Center – located roughly 10 miles northwest of the Project site, the Monument occupies part of a pre-historic lake (Fossil Lake) which contains aquatic and terrestrial fossils from the Eocene epoch (NPS 2020). The monument is managed and protected by the National Park Service. Visitors can view fossil exhibits, engage in summer paleontology programs, hike, and drive scenic byways (NPS 2020). Also on the property is an early 20th century fossil hunter's cabin (Haddenham's Cabin) that is listed on the National Register of Historic Places (Collins 2022). The Monument does not have a maximum capacity for visitors (Collins 2022). The Visitor's Center building has a maximum capacity of 195 people in adherence with local building and fire codes (Collins 2022).

JC Penney Historic District National Historic Landmark – the district is located in downtown Kemmerer and is composed of several properties, including the Golden Rule Store (the first in the J.C. Penney department store chain) and J.C. Penney's house (WSHPO 2022). The store is still operating and the house, on the National Register of Historic Places (WSHPO 2022), is a museum which is open to tours. The district is a National Historic Landmark (NPS 2022). The Museum does not track visitor numbers, but the summer months are busiest (Slovernick 2022).

Fossil Country Frontier Museum – the museum is located in downtown Kemmerer and features information and artifacts about the area's history (FBPB 2021). The museum does not currently track visitor numbers, and there is no stated maximum capacity (Picerno 2022).

Fossil Island Golf Club – the club is a public nine-hole golf course owned by the City of Kemmerer (FIGC Undated). The club has a maximum daily capacity of about 200 golfers. During their busiest days in the summer (usually weekends), the club can approach maximum capacity (Bergman 2022).

Herschler Triangle Park – the park, named after former Wyoming legislator, governor, and Kemmerer resident Edgar Herschler (WSHS Undated) is situated near Kemmerer's historic district. It is the location of the annual Oyster Ridge Music Festival (see below) and other city-sponsored events (Kemmerer Undated). There is no stated maximum capacity for this park.

Oyster Ridge Music Festival – the festival is an annual 2-day outdoor music concert that takes place in Herschler Triangle Park on the last weekend in July. Attendance exceeded 4,000 per day in 2021 (Oystergrass 2022).

Local hunting and fishing locations within 10 miles of the site include the Kemmerer Community Pond, Diamondville Community Pond, and informal locations along Hams Fork (WGFD 2022). There are no boat ramps at the ponds or on the part of Hams Fork within this area.

Hunting is permitted on most public lands, as long as federal or state agency regulations are observed (WGFD 2023a). Within 10 miles of the Project site, most public land is owned by the state and the BLM. Hunting is also permitted in one HMA managed by the Wyoming Game and Fish Department, the Bear River Divide HMA (WGFD 2023b). The Wyoming Game and Fish Department issues permission slips to hunt the Bear River Divide HMA, and all hunters must obey the rules of the private landowners whose land is within HMA boundaries (WGFD 2023c).

2.6 Education

Wyoming's K through 12 education system is primarily funded by state and local property taxes. By state law, Wyoming is responsible for maintaining a public education system that is complete and uniform across the state (Wyoming Constitution, Article 7 §§ 1, 9) (Wyoming Legislative Service Office [WLSO] 2022a). To that end, the state generates funding for two education equalization programs: the School Foundation Program and the School Capitalization Construction program.

2.6.1 School Foundation Program

Through the School Foundation Program, the state guarantees that school districts are appropriately funded to meet their operational and instructional obligations each year ("guarantee"). This is accomplished through the transfer of funds between the state and its school districts. The School Foundation Program funding model considers both state and local school district revenues. If a school district's "guarantee" is greater than its local revenues, the state will make up the difference through "entitlement" payments from the School Foundation Program account. If a school district's "guarantee" is less than its local revenues, the state will "recapture" the difference from the school district and deposit it into the School Foundation Program account (WLSO 2022a).

2.6.2 School Capitalization Construction Program

Wyoming is also responsible for constructing and maintaining school district buildings and facilities. The School Facility Commission and the State Construction Department's School Facilities Department oversee this program. School districts can receive funding for major maintenance and capital construction. Major maintenance projects are determined through statutory formula, and capital construction projects are prioritized by the School Facility Commission (WLSO 2022a).

2.6.3 School District Data for the Study Area

Eight school districts serve the Study Area: three in Lincoln County (the southern portion), three in Uinta County, and two in Sweetwater County (the western half). Figure 2 illustrates the names and locations of the school districts.

Table 15 lists the number of each type of school in every district in the Study Area. SCSD1 is the largest of the eight school districts, with 15 schools (nine elementary schools, three middle schools, and three high schools) and more than 4,800 students enrolled in school year 2023–24. LCSD1 is the district containing most of the city of Kemmerer (and the Project site) and receiving the most property tax revenues from the Project. It consists of one elementary school and two high schools (one high school also contains a junior high). LCSD1 had a total enrollment of 614 students in school year 2023–2024. Combined, the eight Study Area school districts had a total enrollment of 15,208 students.

It should be noted that parts of three school districts are outside of the Study Area: LCSD2, SuCSD9, and SCSD1 (Figure 2).

2.6.4 Study Area Enrollment

Table 16 presents student enrollment for school years 2013–2014 through 2023–2024. Enrollment has fluctuated from year-to-year in all districts and statewide, but total enrollment figures from 2013–2014 to 2023–2024 show a net decline for all districts except LCSD2, which is mostly outside of the Study Area.

SuCSD9 experienced the largest decline, at -32 percent, but it is also mostly outside of the Study Area. Inside the Study Area, SCSD2 experienced the largest decline at -15 percent, followed by SCSD1 at -14 percent. The state, LCSD1, and UCSD6 experienced the smallest declines at -2 percent each.

2.6.5 Student Teacher Ratios and School Capacity

School districts in Wyoming are no longer required, by statute, to adhere to specific student-teacher ratios (Green 2022). However, the state encourages school districts to maintain a student-teacher ratio of 16:1 or less in kindergarten through grade three classrooms. Student-teacher ratios for the Study Area school districts ranged from 9.7 in SuCSD9 to 14.8 in LCSD2 compared to a statewide average of 12.5 (Table 15, WDOE 2024a, WDOE 2024b).

The Wyoming School Facilities Commission's 2023 Annual Report suggests that, based on 2022 enrollment data, public schools in the Study Area have a combined excess capacity large enough to accommodate 8,443 additional students. Table 17 presents the amount of available seating in each Study Area school district.

3.0 PROJECT IMPACTS RELATED TO SOCIOECONOMICS

The preliminary activities included in this analysis would begin in March 2025 and end in September 2026, with a peak workforce of 1,117 construction workers and 128 operations workers (in September 2026). The following impact analysis is based on the peak month and year of the Project, 2026.

3.1 Preliminary Activities Actions

Tables 18 through 21 present the assumptions for workforce migration and family composition in September of 2026 as follows:

- Table 18 presents direct and indirect workforce numbers and family compositions.
- Table 19 presents area-specific multipliers used to determine the sizes of the indirect workforces.
- Table 20 presents the assessment of the number of housing units needed for the Project.
- Table 21 presents the estimated residential distribution of the direct and indirect workforces, based on Study Area housing availability.

Although they are introduced here, Tables 18 through 21 are discussed further in the impact sections below.

In September 2026, there would be a total of 1,245 workers on the Project site, 1,117 construction workers and 128 operations workers. About 1,061 construction workers (95 percent in-migration[4]) and 128 operations workers (100 percent in-migration), plus an indirect workforce of 363, would migrate into

[4] It assumes 95 percent of the construction workers and 100 percent of the operations workers would migrate into the Study Area. With only 4,875 construction jobs (Table 4), the Study Area construction workforce is likely not large and, at 3.2 percent (Table 3), the Study Area unemployment rate is very low.

the Study Area, for a total of 1,553 new residents (Tables 18 and 19). Some of these workers would also bring families. More detail about family members is presented below in the Population, Economy, and Education sections.

Based on the assumptions presented in these tables, the following workforce distribution is predicted: 33 percent in Lincoln County, 45 percent in Uinta County, and 22 percent in Sweetwater County. To be conservative, it is assumed that 100 percent of the workforces would reside within the Study Area.

3.1.1 Population

The USCB's 2010, 2020, and 2022 Census population data for the Study Area are presented in Table 1. The total Study Area population equated to 59,701 in 2022. Table 2 presents the WEAD's forecasted 2030 population for the Study Area, 58,629.

As stated above, the Project would attract 1,553 Study Area in-migrants. This in-migration would result in a 3 percent increase in both the USCB's 2022 Study Area population found in Table 1 and the WEAD's projected 2030 Study Area population found in Table 2. It is estimated that about 37 percent of construction workers and 80 percent of operations and indirect workers would bring families (Table 18). In 2021, the average family size in the U.S. was 3.2 people (USCB 2021a)[5]. Including in-migrating workers and accompanying family members, the additional population would equate to 3,277 people (Table 18) and represent about 5 percent of the USCB's Study Area population in 2022 and 6 percent of the WEAD's projected Study Area population in 2030.

At the county level, Lincoln County would experience a population increase of 1,086 workers and family members, representing a 27 percent increase in its 2022 population (Table 21). In Uinta County, a population increase of 1,458 workers and family members would represent a 7 percent increase in its 2022 population (Table 21). And a population increase of 732 workers and family members in Sweetwater County would equate to a 2 percent increase in its 2022 population.

3.1.2 Employment

The magnitude of employment-related impacts on local and regional economies depends on: the size of the project's in-migrating workforce, employee-related expenditures in the Study Area, and the size of the Study Area's economy. The preliminary activities would require skilled labor, such as foremen, iron workers, electricians, carpenters, and heavy equipment operators, as well as unskilled laborers and a small number of facility operators. This workforce would be needed for road construction, site clearing, shaft drilling/lining, foundation and building construction, roadwork, and facility operations.

Within the Study Area, changes in economic activity (employment and earnings) caused by the Project (direct effects) would result in additional rounds of spending, creating additional employment and earnings (indirect effects). This is called the multiplier effect. As an indirect impact, the multiplier effect of Project jobs in the area would result in additional jobs in the local industries that would support the Project workforce. Examples of indirect jobs are those found in hotels/motels, restaurants, convenience stores, etc. Table 19 presents the calculations of the indirect workforces created by the Project.

[5] The average size of a family in the U.S. was 3.2 in 2021 (USCB 2021a). The average size of a family in Wyoming was 3.05 in 2021 (USCB 2021a). It is conservatively assumed that the average size of an in migrating worker family will be 3.2.

Indirect Study Area employment and household earnings changes can be determined, per unit of change in employment and household earnings in a final-demand industry (direct changes). In this case, there are two final-demand industries, 2332E0 Nonresidential Structures (Construction) and 2211A0 Electric Power Generation, Transmission, and Distribution (BEA 2021). Multipliers for these two industries were applied to in-migrating Project workforce numbers to determine the size of the indirect workforces.

As stated previously, 1,189 Project workers would be expected to migrate into the Study Area (Table 18). Those in-migrants would generate 675 indirect jobs (Table 19). It is conservatively estimated that approximately 25 percent of the indirect jobs, 312 jobs, would be filled by some of the 1,248 unemployed workers (Table 3) already residing in the Study Area. The remaining 363 jobs would be filled by unemployed workers migrating into the Study Area. As such, it is estimated that 1,553 Project-related direct and indirect workers would migrate into the Study Area (1,189 + 363). During the peak of the Project, these 1,553 workers would represent a 4.0 percent increase in the Study Area's 2023 labor force of 39,140 (Table 3).

As presented in the Economy subsection, Lincoln, Uinta, and Sweetwater Counties' total annual personal incomes in 2022 were $1,305,617,000, $927,386, 000, and $2,413,486,000, respectively (BEA 2023b). It is estimated that total Project period wages, including the nuclear facilities and KTC, would equate to about $55,000,000 in 2026, based on the Study Area's average weekly wages for nonresidential structures (construction) workers and electric power generation, transmission, and distribution workers. These wages would represent about 1.2 percent of the total personal incomes of Lincoln, Uinta, and Sweetwater Counties combined.

3.1.3 Housing

The USCB's 2022 housing data for the Study Area counties and municipalities are presented in Tables 7, 8, and 9. Of most importance are the data in Table 9, which provide the most detail on the vacant permanent housing units in the Study Area. According to Table 9, there were 998 vacant housing units for rent and 239 units for sale in Uinta County and the applicable Lincoln and Sweetwater County municipalities (Kemmerer, Diamondville, Green River, and Rock Springs) combined.

Also, RV park and hotel/motel data for the Study Area were collected. The data are introduced in the "Temporary Housing" section of the Current Socioeconomic Environment section and indicate that, at the height of RV park and hotel/motel occupancy (67.3 percent, in July), there would still be 1,082 hotel or motel rooms and 642 RV park sites available to the Project construction and operations workforces.

As discussed in the New Housing section, earlier in this document, approximately 548 newly constructed housing units would be available by 2026. However, because of the uncertainty surrounding new housing construction, it is conservatively assumed that 50 percent of those units would be available to the Project by 2026.

Added together, the four types of housing, existing permanent units for sale or rent, RV parks, hotels/motels, and newly constructed housing, would equate to 3,235 housing units (Table 21).

Based on the following assumptions, Table 20 provides an analysis of the total number of housing units required by the Project and the indirect workforces in 2026:

- Ninety-five percent of the construction and 100 percent of operations workforces would migrate into the three-county region—1,061 construction and 128 operations workers (Table 18).
- Fifty-four percent of the estimated indirect workforce would migrate into the region—363 indirect workers (Table 18).
- Thirty-seven percent of construction workers would bring families (Table 18).
- Fifty percent of construction workers not bringing families would share housing units (Table 20).
- None of the operations or indirect workers would share housing units (Table 20).

Therefore, 1,553 Project-related workers would occupy about 43 percent of the total number of vacant permanent and available temporary housing units in the Study Area. They would occupy 100 percent of the vacant and available housing units in Lincoln and Uinta Counties and 14 percent of the vacant and available housing in Sweetwater County. Consequently, the Project workforces would be distributed across the Study Area as follows: Lincoln County—33 percent, Uinta County—45 percent, and Sweetwater County—22 percent. Most impacts would be localized to Kemmerer, Diamondville, Evanston, Green River, and Rock Springs.

Since 100 percent of vacant and available housing in Lincoln and Unita Counties would be consumed by the Project by September 2026, housing prices and rents may increase as the demand would exceed the supply. Also, a significant amount of new housing would be constructed in Lincoln County, permanently increasing its supply.

3.1.4 Local Taxes

Project-related activities, purchases, and workforce expenditures would generate several types of local taxes, the most important of which are sales and use taxes and property taxes. Most local government funding comes from sales and use taxes and property taxes.

Table 10 and Table 11 present FY 2021 government revenues for Lincoln County and the city of Kemmerer. In Lincoln County, property taxes and payments in lieu of taxes are the largest sources of revenues at $8,867,143, or 32.4 percent of total revenues. In Kemmerer, sales and use taxes are, by far, the largest source of revenues at $1,689,508, or 42 percent of total revenues.

Sales and Use Taxes

Local Sales and Use Taxes

For construction, it is estimated that there would be $500 million in materials costs. At a 5 percent sales and use tax rate, these expenditures would result in a total of about $25,000,000 in revenues to state and local taxing jurisdictions. The Project would generate about $3,900,000 in sales and use taxes in the peak year.

Taxes are collected by vendors and remitted to the WDOR. To each county, the WDOR returns 31 percent of the state's 4 percent sales and use tax collections in that county plus 100 percent of that county's 1 percent sales and use tax collections (minus a WDOR service fee). This equates to 2.24 percent of the 5 percent collected (or 44.8 percent of the 5 percent collected). The distribution of those revenues between each county and its municipalities is determined using a population-based formula.

For the peak year sales and use taxes ($3,900,000), the portions of the taxes that would reach the Study Area counties and their municipalities would represent about 2 percent of Lincoln, Uinta, and Sweetwater Counties' sales and use tax collections in FY 2021, which totaled $93,612,111 (($3,900,000 x 44.8%)/$93,612,111) (Table 12).

A peak in-migrating workforce of 1,189 is expected in September 2026. Most, if not all, of these workers and their families are expected to settle in the Study Area. Their retail expenditures (restaurants, hotels, merchant sales, and other items) would yield an increase in sales and use tax revenues. For the peak year, it is estimated that Project wages would total about $55,000,000. Some percentage of these wages would be spent and taxed within the Study Area, generating sales and use tax revenues for the state and local governments. For example, if workers were to spend 50 percent of their wages in the Study Area, the counties and municipalities would receive about $616,000. This amount would represent less than 1 percent of the Study Area's total sales and use tax revenues in FY 2021 (($55,000,000 x 0.5 x 0.05 x 44.8%)/$93,612,111).

As an indirect impact, the multiplier effect of the new jobs in the area would also result in higher personal income for current residents in the Study Area, more disposable income, and greater expenditures by individuals and families for items subject to sales or use taxes.

Impact Assistance Payment Program

The state portion of the 5 percent sales and use taxes collected, 2.76 percent (or 55.2 percent of the 5 percent collected), can be used by the state to fund its Impact Assistance Payment Program. Based on the criteria presented in Section 2.4.2, Wyoming can use 2 percent of the 2.76 percent it collects (or 72.5% of the 2.76 percent collected) from the materials costs of the Project to remunerate Study Area communities for the costs they incur in hosting the Project and its workforces. Based on these percentages, the materials costs of the Project would result in $10,000,000 in impact assistance funds for Study Area communities ($25,000,000 x 55.2% x 72.5% = ~$10,000,000).

As stated previously, in FY 2021, Lincoln, Uinta, and Sweetwater Counties reported sales and use tax collections totaling $93,612,111 (Table 12). The $10,000,000 in impact assistance funds would represent about 11 percent of total collections.

Property Taxes

As presented in "Property Taxes" in the Current Socioeconomic Environment section, the most recent annual property tax payment attributable to the parcel proposed for the development of the Project was estimated to be about $200. During the 18-month period, TerraPower would pay an estimated total of $4,257,683 in property taxes to local taxing jurisdictions. In 2026, alone, TerraPower would pay $3,073,031. At 46.4 mills, the LCSD1 levy represents about 71 percent of the total mill levy. At 12 mills, the Lincoln County levy represents about 18 percent of the total mill levy. The remaining taxing jurisdictions' mill rates are significantly smaller.

LCSD1 would likely receive about 71 percent of the Project's tax payment, about $2,189,535 in 2026. When compared to the school district's total local revenues in 2020–2021 (Table 14), the payment would represent about 20 percent of the school district's total local revenues. Lincoln County would receive about 18 percent of the tax payment, about $566,360. When compared to the county's total property tax levies in 2021 (Table 13), the payment would represent about 7 percent. The city of Kemmerer would receive none of the tax payment because the city is not one of Kemmerer Unit 1's taxing jurisdictions.

Of the peak workforce in 2026, the great majority would be construction workers who would reside in the area temporarily and likely not pay property taxes. A few would be operations workers, who would likely pay property taxes. Most of these operations workers and their families are likely to settle in Lincoln County in the Kemmerer/Diamondville area and Uinta County in the Evanston area.

3.1.5 Recreation

Section 2.5 presents information about the existing recreational opportunities in the Project vicinity. When available, information about current utilization rates and capacities are provided.

The influx of workers during the preliminary activities could impact the use of recreation opportunities within the 10-mile vicinity in two ways. One set of impacts would be caused by Kemmerer Unit 1-related population growth in the Kemmerer and Diamondville area. In-migrating workers and family members could increase the use of recreation areas and facilities that cater mostly to residents in the 10-mile vicinity. The other set of impacts would be caused by construction workforce use of temporary accommodations in the Project vicinity, preventing use of those accommodations by baseline recreators and tourists.

By September 2026, 33 percent of the in-migrating 3,277 workers and family members (Table 18), about 1,086 workers and family members, would represent a 27 percent increase in the combined 2022 populations of Kemmerer, Diamondville, Cokeville, and LaBarge (Table 21). Recreational areas, facilities, and venues used by local residents would be expected to increase by a similar percentage. With the exception of the golf club, there are no stated maximum capacities for recreators at the facilities and venues in the 10-mile vicinity. Impacts to those facilities would be minor. The Fossil Island Golf Club has a maximum daily capacity of about 200 golfers. During its busiest days in the summer (usually weekends), the club can approach maximum capacity. A 27 percent increase in customers (about 54 golfers) could displace 54 baseline customers during periods of high use.

The other set of impacts caused by the in-migrating workers are related to the workers' use of the temporary accommodations in the economic region. Tourism destinations and events, such as the Fossil Butte National Monument, JC Penney Museum, the Fossil Country Frontier Museum, and the Oyster Ridge Music Festival could draw out-of-town tourists who might seek overnight accommodations. Project construction workers staying in temporary housing in Lincoln and Uinta Counties would likely keep those units at or near maximum capacity, especially during the peak time period of September 2026. Non-local recreators and other visitors could encounter difficulty in finding available hotels, motels, RV parks, and campgrounds within the vicinity and even further out.

The Oyster Ridge Music Festival is an annual 2-day outdoor music concert that takes place in Herschler Triangle Park on the last weekend in July. Attendance exceeded 4,000 each day in 2021. Project-related occupancy of local accommodations could impact out-of-town concert-goers who would seek overnight accommodations within reasonable driving distance of the venue. Reservations at the hotels, motels, RV

parks, and campgrounds in the area could be difficult to procure. Some patrons would need to find accommodations farther away, and some users could forgo their plans altogether.

3.1.6 Education

Section 2.5 presents student-teacher ratios and school capacity data for the school districts in the Study Area. Table 16 presents student enrollment for school years 2013–2014 through 2023–2024. Total enrollment shows a net decline for nearly all districts in the Study Area. Table 17 presents the excess seating capacity in each Study Area school district. The data suggest that public schools in the Study Area have a combined excess capacity large enough to accommodate 8,443 additional students. Student-teacher ratios for the Study Area school districts ranged from 9.7 in SuCSD9 to 14.8 in LCSD2 (Table 15), all below the state's recommended 16:1.

Based on 2021 Census data for the U.S. and Wyoming, it is assumed that each in-migrating worker with a family would have 0.88 school-age children (Table 18). Therefore, 686 school-age children would accompany an estimated 784 in-migrating workers (Table 18). This analysis conservatively assumes that all school-age children would attend public schools and reside in one of the three counties in the Study Area. Based on the estimated residential distribution of the Project workforce, 227 workforce children would go to Lincoln County school districts, 305 would go to Uinta County school districts, and 153 would go to Sweetwater County school districts.

Based on these numbers, there appears to be ample seating and staffing across the Study Area for the children of the Project-related workforces. However, it is possible that individual schools at or near capacity could struggle to accommodate Project workforce children. In those schools, the state's education equalization programs would provide funding for staff and facilities to accommodate the increased enrollments.

Table 1 USCB Population in the Study Area

Geography	2010	2020	2022	2010–2022
	USCB Decennial	USCB Decennial	USCB Census ACS 5-Year	Average Annual
	Census	Census	Estimate	Percent Growth
Wyoming	**563,626**	**576,851**	**577,929**	**0.2%**
Lincoln County	**18,106**	**19,581**	**19,794**	**0.7%**
Cokeville*	535	502	423	-1.9%
Diamondville*	737	520	700	-0.4%
Kemmerer*	2,656	2,415	2,640	-0.1%
LaBarge*	551	394	259	-6.1%
Uinta County	**21,118**	**20,450**	**20,546**	**-0.2%**
Bear River	518	522	873	4.4%
Evanston	12,359	11,747	11,801	-0.4%
Lyman	2,115	2,135	1,736	-1.6%
Mountain View	1,286	1,278	1,114	-1.2%
Sweetwater County	**43,806**	**42,272**	**42,079**	**-0.3%**
Green River*	12,515	11,825	11,772	-0.5%
Rock Springs*	23,036	23,526	23,361	0.1%
Study Area Total	**61,148**	**59,632**	**59,701**	**-0.20%**

Sources: USCB 2010, 2020, and 2022a

*Lincoln and Sweetwater County municipalities within daily commuting distance and with populations over 250.

Table 2 Wyoming Economic Analysis Division's Population Forecasts for the Study Area

Geography	USCB Decennial Census 2010	USCB Estimate 2018	Average Annual Percent Growth 2010-2018	Forecast 2020	Average Annual Percent Growth 2010-2020	Forecast 2030	Average Annual Percent Growth 2020-2030	Forecast 2040	Average Annual Percent Growth 2030-2040
WYOMING	563,626	577,737	0.31%	579,280	0.27%	597,260	0.31%	614,820	0.29%
Lincoln County	18,106	19,434	0.89%	19,760	0.88%	21,550	0.87%	22,490	0.43%
Cokeville	535	548	0.30%	572	0.67%	624	0.87%	651	0.43%
Diamondville	737	754	0.29%	788	0.67%	859	0.87%	897	0.43%
Kemmerer	2,656	2,734	0.36%	2,852	0.71%	3,110	0.87%	3,246	0.43%
La Barge	551	561	0.23%	586	0.61%	639	0.87%	667	0.43%
Uinta County	21,118	20,299	-0.49%	20,230	-0.43%	19,710	-0.26%	19,790	0.04%
Bear River	518	513	-0.12%	510	-0.15%	497	-0.26%	499	0.04%
Evanston	12,359	11,704	-0.68%	11,736	-0.52%	11,435	-0.26%	11,481	0.04%
Lyman	2,115	2,065	-0.30%	2,038	-0.37%	1,986	-0.26%	1,994	0.04%
Mountain View	1,286	1,240	-0.45%	1,247	-0.31%	1,215	-0.26%	1,220	0.04%
Sweetwater County	43,806	43,051	-0.22%	42,640	-0.27%	41,390	-0.30%	41,780	0.09%
Green River	12,515	11,978	-0.55%	11,888	-0.51%	11,540	-0.30%	11,648	0.09%
Rock Springs	23,036	23,082	0.02%	22,817	-0.10%	22,148	-0.30%	22,357	0.09%
Study Area Total	61,148	59,956	-0.25%	59,732	-0.23%	58,629	-0.19%	59,255	0.11%

Source: WEAD 2019

Notes:

2010 state, county, and municipality populations are 2010 Decennial Census counts.

2011 to 2018 populations U.S. Census Bureau estimates.

2020 to 2040 state and county population forecasts were developed by the state, based on trends in area demographic and economic variables.

Socioeconomic Study Area population includes Lincoln and Sweetwater County municipality populations within daily commuting distance plus total Uinta County population.

Table 3 Employment Trends

Geography	Labor Force			Employment			Unemployment			Unemployment Rate (%)	
	2013	2023	Average Annual Percent Change	2013	2023	Average Annual Percent Change	2013	2023	Average Annual Percent Change	2013	2023
Wyoming	302,201	295,207	-0.2%	287,792	286,669	0.0%	14,409	8,538	-5.1%	4.8	2.9
Lincoln County	8,050	9,793	2.0%	7,583	9,510	2.3%	467	283	-4.9%	5.8	2.9
Uinta County	9,817	9,096	-0.8%	9,295	8,807	-0.5%	522	289	-5.7%	5.3	3.2
Sweetwater County	23,539	20,251	-1.5%	22,499	19,575	-1.4%	1,040	676	-4.2%	4.4	3.3
Study Area	**41,406**	**39,140**	**-0.6%**	**39,377**	**37,892**	**-0.4%**	**2,029**	**1,248**	**-4.7%**	**4.9**	**3.2**
Study Area as Percent of Wyoming	**13.7%**	**13.3%**		**13.7%**	**13.2%**		**14.1%**	**14.6%**			

Source: BLS 2024

Table 4 Employment by Industry (Jobs), 2019 and 2022

	Lincoln County		Uinta County		Sweetwater County		Study Area Totals		Wyoming	
Statistic	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**
Employment by Place of Work										
Total Employment (number of jobs)	11,156	12,788	11,852	12,175	27,910	26,840	50,918	51,803	408,043	436,564
By Type										
Wage and Salary Employment	7,019	7,455	8,893	8,621	23,751	21,579	39,663	37,655	297,474	290,384
Proprietors Employment	4,137	5,333	2,959	3,554	4,159	5,261	11,255	14,148	110,569	146,180
Farm Proprietors Employment	555	554	290	289	229	228	1,074	1,071	10,489	10,455
Nonfarm Proprietors Employment (excludes limited partners)	3,582	4,779	2,669	3,265	3,930	5,033	10,181	13,077	100,080	135,725
By Industry										
Farm Employment	694	685	394	387	286	280	1,374	1,352	14,577	14,283
Nonfarm Employment	10,462	12,103	11,458	11,788	27,624	26,560	49,544	50,451	393,466	422,281
Private Nonfarm Employment	8,461	10,110	9,140	9,585	22,851	22,206	40,452	41,901	318,600	349,057
Forestry, Fishing, and Related Activities	126	126	84	83	(D)	(D)	210	209	3,279	3,462
Mining, Quarrying, and Oil and Gas Extraction	675	701	352	254	4,777	3,523	5,804	4,478	24,853	20,789
Utilities	175	166	134	176	(D)	395	309	737	2,579	(D)
Construction	1,283	1,598	1,138	1,182	2,092	2,095	4,513	4,875	30,915	30,141
Manufacturing	241	278	340	377	1,424	1,399	2,005	2,054	12,399	(D)
Wholesale Trade	150	167	205	193	(D)	684	355	1,044	9,476	9,396

	Lincoln County		Uinta County		Sweetwater County		Study Area Totals		Wyoming	
Statistic	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**
Retail Trade	1,117	1,313	1,419	1,506	2,615	2,864	5,151	5,683	37,642	39,902
Transportation and Warehousing	286	341	528	533	1,468	1,472	2,282	2,346	15,672	17,567
Information	133	159	287	312	159	149	579	620	4,438	4,905
Finance and Insurance	407	721	421	569	658	1,011	1,486	2,301	20,479	35,536
Real Estate, Rental and Leasing	684	1,185	521	648	1,142	1,290	2,347	3,123	23,947	34,015
Professional, Scientific, and Technical Services	524	638	503	534	819	774	1,846	1,946	18,850	21,334
Management of Companies and Enterprises	(D)	72	65	56	118	144	183	272	1,899	2,656
Administrative and Support and Waste Management and Remediation Services	(D)	492	268	290	810	884	1,078	1,666	14,235	15,081
Educational Services	110	110	92	76	161	(D)	363	186	4,424	4,744
Health Care and Social Assistance	609	596	1,291	1,231	1,592	1,583	3,492	3,410	30,854	30,888
Arts, Entertainment, and Recreation	149	161	208	207	258	328	615	696	8,069	8,566
Accommodation and Food Services	679	682	793	809	2,380	2,336	3,852	3,827	36,361	36,520
Other Services (except government and government enterprises)	577	604	491	549	1,105	1,053	2,173	2,206	18,229	18,596

	Lincoln County		Uinta County		Sweetwater County		Study Area Totals		Wyoming	
Statistic	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**
Government and Government Enterprises	2,001	1,993	2,318	2,203	4,773	4,354	9,092	8,550	74,866	73,224
Federal Civilian	113	117	73	75	222	213	408	405	7,578	7,586
Military	105	110	109	109	225	220	439	439	6,221	6,264
State and Local	1,783	1,766	2,136	2,019	4,326	3,921	8,245	7,706	61,067	59,374
State Government	121	109	487	444	248	236	856	789	14,754	14,279
Local Government	1,662	1,657	1,649	1,575	4,078	3,685	7,389	6,917	46,313	45,095

Source: BEA 2023a
(D) - Not shown to avoid disclosure of confidential information; estimates are included in higher-level totals.

Table 5 Wages by Industry Sector - Heavy and Civil Engineering Construction, NAICS Sector 237, Year 2023

Geography	Annual Establishments	Annual Average Employment	Annual Average Weekly Wage	Annual Wages per Employee
United States	57,615	1,103,847	$1,745	$90,726
Wyoming	444	5,667	$1,534	$79,772
Lincoln County	12	160	$1,212	$63,046
Uinta County	36	737	$1,634	$84,974
Sweetwater County	19	538	$1,340	$69,673

Source: BLS 2023

Table 6 Wages by Industry Sector - Nuclear Electric Power Generation, NAICS 221113, Year 2023

Geography	Annual Establishments	Annual Average Employment	Annual Average Weekly Wage	Annual Wages per Employee
United States	176	37,475	$3,093	$160,830
Wyoming	0	0	$0	$0
Lincoln County	0	0	$0	$0
Uinta County	0	0	$0	$0
Sweetwater County	0	0	$0	$0

Source: BLS 2023

Table 7 Selected Housing Characteristics in the Study Area, Counties, 2022

Subject	Lincoln County*	Lincoln County Percent*	Uinta County	Uinta County Percent	Sweetwater County*	Sweetwater County* Percent	Study Area Total	Percent of Total
Total Housing Units	9,591	100%	8,831	100%	19,198	100%	37,620	100%
Occupancy Status								
Occupied Housing Units	7,629	79.5%	7,586	85.9%	16,335	85.1%	31,550	83.9%
Vacant Housing Units	1,962	20.5%	1,245	14.1%	2,863	14.9%	6,070	16.1%
Homeowner Vacancy Rate	1.7	n/a	1.3	n/a	1.2	n/a	n/a	n/a
Rental Vacancy Rate	1.8	n/a	5.9	n/a	17.4	n/a	n/a	n/a
Housing Tenure (Occupied Units)								
Owner-occupied	6,056	79.4%	5,914	78.0%	11,982	73.4%	23,952	75.9%
Renter-occupied	1,573	20.6%	1,672	22.0%	4,353	26.6%	7,598	24.1%
Median Value (owner-occupied units)	$325,500	n/a	$224,800	n/a	$240,300	n/a	$258,015	n/a
Median Rent (renter-occupied units)	$818	n/a	$790	n/a	$899	n/a	$858	n/a

Source: USCB 2022b
*A portion of this housing is not within daily commuting distance of the Project site.
n/a = Not applicable

Table 8 Selected Housing Characteristics in the Study Area, Largest Municipalities, 2022

Subject	Kemmerer	Kemmerer Percent	Diamondville	Diamondville Percent	Evanston	Evanston Percent	Green River	Green River Percent	Rock Springs	Rock Springs Percent
Total Housing Units	1,356	100%	392	100%	5,330	100%	4,910	100%	10,736	100%
Occupancy Status										
Occupied Housing Units	1,231	90.8%	318	81.1%	4,628	86.8%	4,431	90.2%	9,017	84.0%
Vacant Housing Units	125	9.2%	74	18.9%	702	13.2%	479	9.8%	1,719	16.0%
Homeowner Vacancy Rate	3.3%	n/a	2.7%	n/a	1.2%	n/a	1.6%	n/a	1.1%	n/a
Rental Vacancy Rate	0.3%	n/a	0.0%	n/a	4.1%	n/a	21.9%	n/a	17.5%	n/a
Housing Tenure (Occupied Units)										
Owner-occupied	926	75.2%	257	80.8%	3,346	72.3%	3,284	74.1%	6,412	71.1%
Renter-occupied	305	24.8%	61	19.2%	1,282	27.7%	1,147	25.9%	2,605	28.9%
Median Value (owner-occupied units)	166,600	n/a	126,300	n/a	198,000	n/a	244,600	n/a	243,100	n/a
Median Rent (renter-occupied units)	757	n/a	593	n/a	726	n/a	923	n/a	925	n/a

Source: USCB 2022b
n/a = Not applicable

Table 9 Vacancy Status in the Study Area, 2022

Type	Lincoln County (entire county)	Uinta County (entire county)	Sweetwater County (entire county)	Study Area Total	% of Total	Diamondville	Kemmerer	Evanston	Green River	Rock Springs
Total Vacant Housing Units:	1,962	1,245	2,863	6,070	100%	74	125	702	479	1,719
For Rent	29	104	937	1,070	17.6%	0	1	55	321	572
Rented, Not Occupied	10	0	96	106	1.7%	0	0	0	0	89
For Sale Only	104	76	143	323	5.3%	7	32	42	55	69
Sold, Not Occupied	25	15	70	110	1.8%	0	16	0	0	62
For Seasonal, Recreational, or Occasional Use	1,155	143	207	1,505	24.8%	8	13	0	0	34
For Migrant Workers	0	0	61	61	1.0%	0	0	0	0	21
Other Vacant	639	907	1,349	2,895	47.7%	59	63	605	103	872

Source: USCB 2022c

Notes:

- "Other Vacant" is a vacant unit that does not fall into any of the categories specified above. Examples include: units held for occupancy by a caretaker or janitor, units held for personal reasons of the owner (e.g., legal, remodel, long absences) (USCB 2014).
- "Seasonal, Recreational, or Occasional Use" units are vacant units used or intended for use only in certain seasons or for weekends or other occasional use throughout the year. Seasonal units include those used for summer or winter sports or recreation, such as beach cottages and hunting cabins. Seasonal units also may include quarters for such workers as herders and loggers. Interval ownership units, sometimes called shared-ownership or timesharing condominiums, also are included here (USCB 2014).

Table 10 Lincoln County Revenues and Expenditures, FY 2021

Revenues	Dollars	Percent of Total
Property taxes	$7,271,821	26.6%
Payments in lieu of taxes	$1,595,322	5.8%
Sales and use taxes	$6,150,208	22.5%
State gas tax	$1,139,598	4.2%
Vehicle fees	$886,772	3.2%
Severance tax	$522,757	1.9%
Other taxes	$74,849	0.3%
Nonmajor fund taxes	$76,363	0.3%
Intergovernmental	$6,635,468	24.2%
Charges for services	$2,821,782	10.3%
Licenses and permits	$3,690	0.0%
Interest and investment income	$67,040	0.2%
Miscellaneous	$131,979	0.5%
TOTAL REVENUES	$27,377,649	100.0%
Expenditures:		
General government	$8,293,827	36.0%
Public safety	$7,181,455	31.2%
Public works	$3,135,503	13.6%
Health and welfare	$4,092,071	17.8%
Debt service	$327,300	1.4%
TOTAL EXPENDITURES	**$23,030,156**	100.0%

Source: Lincoln County 2021.

Table 11 Kemmerer Revenues and Expenditures, FY 2021

Revenues	Dollars	Percent of Total
Sales and Use Taxes	$1,689,508	42.0%
General Property Taxes	$133,549	3.3%
Lodging Taxes	$76,098	1.9%
Severance Taxes	$98,151	2.4%
Gas Taxes	$91,960	2.3%
Franchise Taxes	$75,295	1.9%
Motor Vehicle Taxes	$86,614	2.2%
Cigarette Taxes	$13,583	0.3%
Charges for Services	$814,104	20.2%
Licenses and Permits	$44,334	1.1%
Intergovernmental	$796,760	19.8%
Fines and Forfeitures	$26,235	0.7%
Miscellaneous	$79,927	2.0%
TOTAL REVENUES	**$4,026,118**	100.0%
Expenditures:		
General government	$863,882	22.7%
Public safety	$733,829	19.3%
Streets and highways	$1,012,845	26.7%
Parks and recreation	$665,479	17.5%
Sanitation	$308,216	8.1%
Municipal court	$28,956	0.8%
Building inspection/zoning	$9,432	0.2%
South Lincoln Training and Event Center	$111,913	2.9%
Debt service	$64,221	1.7%
TOTAL EXPENDITURES	**$3,798,773**	100.0%

Source: Kemmerer 2021.

Table 12 Total Sales and Use Tax Collections in the Study Area and State, FY 2011–2021[a]

County	FY 2011 Total Taxes	FY 2011 4% Taxes	FY 2019 Total Taxes	FY 2019 4% Taxes	FY 2020 Total Taxes	FY 2020 4% Taxes	FY 2021 Total Taxes	FY 2021 4% Taxes	Average Annual % Change, FY11 to FY21	Average Annual % Change, FY11 to FY21
Lincoln	$21,568,367	$17,261,556	$23,492,091	$18,766,530	$21,416,242	$17,107,382	$26,355,168	$21,040,812	2.0%	2.0%
Uinta	$20,944,926	$16,755,440	$20,207,437	$16,144,547	$21,195,181	$16,934,331	$22,474,796	$17,951,823	0.7%	0.7%
Sweetwater	$92,046,995	$71,942,751	$88,964,473	$71,038,987	$79,710,912	$63,648,735	$68,456,666	$54,619,476	-2.9%	-2.7%
Wyoming	$853,588,045	$670,704,525	$1,018,916,734	$767,510,401	$1,016,113,236	$765,501,106	$978,476,265	$725,646,878	1.4%	0.8%

Sources: WEAD 2011, 2021
a. Includes Economic Impact Assessment payments (Liu 2023)

Table 13 Total Study Area County-Wide Property Tax Levies, Tax Years 2019–2021

Year	County	Municipal	Special District	Total Education[a]	State General Fund[b]	Total	Average Mill Levy
Lincoln							
2011	$10,588,451	$649,444	$4,822,020	$43,342,687	None	$59,402,602	62.476
2019	$9,111,202	$755,240	$5,360,168	$34,197,530	None	$49,424,140	63.550
2020	$8,910,569	$798,120	$4,617,154	$33,372,925	None	$47,698,768	63.209
2021	$8,726,261	$870,521	$5,013,971	$32,579,974	None	$47,190,727	64.895
Uinta							
2011	$6,961,457	$823,052	$2,012,652	$27,486,125	None	$37,283,286	66.647
2019	$4,679,240	$927,845	$1,392,443	$17,943,969	None	$24,943,497	65.431
2020	$4,179,045	$939,335	$1,257,551	$16,054,941	None	$22,430,872	65.746
2021	$3,854,575	$1,003,446	$1,149,451	$14,855,587	None	$20,863,059	64.951

Year	County	Municipal	Special District	Total Education[a]	State General Fund[b]	Total	Average Mill Levy
Sweetwater							
2011	$30,518,648	$2,524,555	$8,798,690	$128,830,777	None	$170,672,670	71.549
2019	$29,967,434	$2,801,365	$10,193,040	$126,958,145	None	$169,919,984	72.739
2020	$28,424,313	$2,764,261	$11,320,207	$120,319,517	None	$162,828,298	72.726
2021	$23,705,139	$2,735,934	$9,840,406	$99,100,981	None	$135,382,460	68.533

Sources: WDOR 2011, 2019, 2020, and 2022b.

a. Includes all school district levies (including the state levy for the School Foundation Program [12 mill cap]) and bond/interest revenue.

b. The state of Wyoming levies property taxes for the School Foundation Program, only.

Table 14 School District Revenues by Source, 2019–2021[a]

Operating Revenue Source	Lincoln County School District 1 (Kemmerer) 2019–2020	Uinta County School District 1 (Evanston) 2019–2020	Operating Revenue Source	Lincoln County School District 1 (Kemmerer) 2020–2021	Uinta County School District 1 (Evanston) 2020–2021
Local	$11,187,857	$8,235,583	**Local**	$10,748,651	$6,711,417
County	$915,987	$2,133,592	**County**	$938,170	$1,942,954
State	$951,426	$33,950,971	**State**	$1,897,870	$34,227,813
Federal	$311,959	$3,730,166	**Federal**	$422,486	$5,210,602
Other	$103,000	$634,157	**Other**	$108,000	$688,625
Total	$13,470,230	$48,684,469	**Total**	$14,115,177	$48,781,410
Assessed Valuation 7/1/19	$403,375,699	$228,209,937	**Assessed Valuation 7/1/20**	$371,011,390	$203,396,040

Sources: WDOE 2020, 2021

a. School districts of largest cities in Lincoln and Uinta Counties. These are the cities/school districts most likely to host the operations workforce.

Table 15 Selected School District Characteristics, School Year 2023–2024

Measure	Lincoln County School District 1 (LCSD1)	Lincoln County School District 2 (LCSD2)	Sublette County School District 9 (SuCSD9)	Sweetwater County School District 1 (SCSD1)	Sweetwater County School District 2 (SCSD2)	Uinta County School District 1 (UCSD1)	Uinta County School District 4 (UCSD4)	Uinta County School District 6 (UCSD6)	Wyoming School District Average[a]
Elementary	1	5	2	9	7	4	1	1	4
Junior High/Middle	0	1	1	3	1	2	0	1	1
High	2 (one high school also contains a junior high)	3	1	3	2	2	1	1	2
Enrollment (Number of Students) (2023-2024)									
Kindergarten	51	187	24	330	169	174	56	57	137
Grade 1	43	194	25	324	171	190	43	50	133
Grade 2	42	213	30	336	167	193	64	40	141
Grade 3	43	209	43	358	174	195	43	41	140
Grade 4	59	207	36	359	174	207	58	55	142
Grade 5	41	222	32	379	154	238	42	57	145
Grade 6	47	229	35	356	175	184	59	61	144
Grade 7	56	230	35	396	175	204	64	55	147
Grade 8	46	235	23	386	169	201	59	70	149
Grade 9	53	255	41	399	215	242	51	70	159
Grade 10	43	252	46	423	207	200	65	56	155
Grade 11	49	255	37	405	212	189	47	55	148
Grade 12	41	251	33	391	166	188	65	57	140
Total	614	2,939	440	4,842	2,328	2,605	716	724	1,881

Measure	Lincoln County School District 1 (LCSD1)	Lincoln County School District 2 (LCSD2)	Sublette County School District 9 (SuCSD9)	Sweetwater County School District 1 (SCSD1)	Sweetwater County School District 2 (SCSD2)	Uinta County School District 1 (UCSD1)	Uinta County School District 4 (UCSD4)	Uinta County School District 6 (UCSD6)	Wyoming School District Average[a]
Staff (FTE) (2021-2022)									
Teachers (Certified)	45.1	198.8	45.3	356.1	186.6	210.7	67.5	56.2	151
Student Support (Certified)	6.5	29	3.9	57.4	23	30.3	6.8	7.3	29
Staff Support (Certified)	1	1.5	0.1	7.8	5	9	0.3	1.3	6
Administrators	4.3	17.5	9.2	33.3	21	19.5	7.8	8.7	16
Instructional Support Classified	24.8	109.2	13.3	94.4	106	98.5	30.9	37.2	66
Other General Report	29.5	98.5	28.3	181.8	120	111.1	28.7	30.9	73
Total	111.1	454.6	100.2	730.7	461.6	479.1	142	141.6	340
Student-to-Teacher Ratio	13.6	14.8	9.7	13.6	12.5	12.4	10.6	12.9	
School Foundation Program[b]									
Foundation Program Entitlement	$885,189	$32,716,446	$0	$40,412,414	$16,053,193	$31,538,390	$10,682,151	$9,919,333	n/a
Foundation Program Recapture	$0	-$129,369	-$4,071	-$69,211	-$591	-$4,210	-$19	-$1,272	n/a

Notes:
ADM – Average Daily Membership, which is the average number of students enrolled each day over the 2021-2022 school year.
FTE – Full-Time Equivalent
n/a – not applicable
a. Wyoming School District Average values calculated by dividing Wyoming State totals by 48 total Wyoming school districts.
b. Revenue source data are for school year 2021-22, the most recent year, for which, these data are available.
Source: WDOE 2024a, 2024b

Table 16 School District Enrollment, 2014–2024

School Year	Lincoln County School District 1 (LCSD1)	Lincoln County School District 2 (LCSD2)	Sublette County School District 9 (SuCSD9)	Sweet-water County School District 1 (SCSD1)	Sweet-water County School District 2 (SCSD2)	Uinta County School District 1 (UCSD1)	Uinta County School District 4 (UCSD4)	Uinta County School District 6 (UCSD6)	Wyoming School District Average[a]
2013–2014	624	2,627	650	5,607	2,729	2,854	775	742	1,921
2014–2015	634	2,681	627	5,719	2,726	2,911	791	721	1,944
2015–2016	607	2,801	605	5,749	2,710	2,794	828	697	1,958
2016–2017	603	2,871	560	5,687	2,694	2,770	851	725	1,943
2017–2018	613	2,883	546	5,539	2,606	2,684	838	739	1,937
2018–2019	583	2,917	517	5,438	2,544	2,730	839	727	1,938
2019–2020	626	2,984	520	5,479	2,544	2,764	825	720	1,955
2020–2021	589	2,924	470	5,141	2,359	2,645	785	719	1,915
2021–2022	633	3,063	468	5,054	2,365	2,716	765	725	1,917
2022–2023	598	3,043	441	5,051	2,406	2,656	748	725	1,909
2023–2024	614	2,939	440	4,842	2,328	2,605	716	724	1,881
Net Change (2014–2024)	**-10**	**312**	**-210**	**-765**	**-401**	**-249**	**-59**	**-18**	**-40**
Percent Change (2014–2024)	**-2%**	**12%**	**-32%**	**-14%**	**-15%**	**-9%**	**-8%**	**-2%**	**-2%**

Source: WDOE 2024b

a. Wyoming School District Average values calculated by dividing Wyoming State totals by 48 total Wyoming school districts.

Table 17 Study Area School District Seating Capacities, 10/1/2022

Seating	Lincoln County School District 1 (LCSD1)	Lincoln County School District 2 (LCSD2) – Cokeville only	Sublette County School District 9 (SuCSD9) – LaBarge only	Sweetwater County School District 1 (SCSD1) – excluding Wamsutter	Sweetwater County School District 2 (SCSD2)	Uinta County School District 1 (UCSD1)	Uinta County School District 4 (UCSD4)	Uinta County School District 6 (UCSD6)
Restricted Capacity[a]	1,097	594	115	6,445	4,109	5,658	1,799	1,649
10/1/2022 Enrollment[b]	598	213	42	4,910	2,394	3,395	747	724
Seats Available	499	381	73	1,535	1,715	2,263	1,052	925

Source: WSCD 2023

a. Restricted capacity means that the School Facilities Commission has set a limit for the number of students that are counted in a classroom, even though the room may be able to hold more students because of its size.

b. Date of enrollment used in source document.

Table 18 Assumptions for Workforce Migration and Family Composition

Assumptions for Project Workforce Migration and Family Composition in 2026 (Peak Year)				
	Construction Direct Workforce	**Operations Direct Workforce**	**Indirect Workforce**	**Total (Direct + Indirect)**
Workforce Characterization				
Number of Workers On-site During Peak Month	1,117	128	N/A	1,245
Workforce Migration				
Percent of Workforce Migrating into Study Area	95%	100%	100%	
Total Number of Workers Migrating into Study Area During Peak Month	1,061	128	363	1,553
Families				
Percent of Workers Who Bring Families	37%	80%	80%	
Percent of Workers Who Do Not Bring Families	63%	20%	20%	
Number of Workers Who Bring Families into Study Area	391	102	291	784
Number of Workers Who Do Not Bring Families into Study Area	671	26	73	769
Average Worker Family Size (worker, spouse, children)	*3.20*	*3.20*	*3.20*	
Total In-migration – Families and Unaccompanied Workers				
Total Number of Workers Who Bring Families, Migrating into the Study Area (= total families)	391	102	291	784
In-migrating Workers' Family Members	859	225	640	1,724
Total In-migrating Workers Accompanied by Family, Plus Family Members	1,250	328	930	2,508
Total Number of Workers Not Bringing Families into the Study Area	671	26	73	769
Total Number of Workers and Family Members Migrating into the Study Area (= new population)	1,920	353	1,003	3,277
School-age children				
Number of school-age children per family	*0.88*	*0.88*	*0.88*	
Number of school-age children	342	90	254	686

Sources: USCB 2021a and USCB 2021b

Table 19 Direct and Indirect Employment

Demographic	Kemmerer Unit 1
Construction Workforce During Project Peak (Table 18)	1,117
Operations Workforce on Site During Project Peak (Table 18)	128
Number of Construction Workers Who Migrate into Study Area (95% of construction workforce during Project peak) (Table 18)	1,061
Number of Operations Workers Who Migrate into Study Area (100% of operations workforce on site during Project peak) (Table 18)	128
Employment Multiplier for Construction Workers in Study Area – 2332E0 Nonresidential Structures (construction) (indirect portion only) [BEA 2021]	0.3994
Employment Multiplier for Operations Workers in Study Area – 2211A0 Electric Power Generation, Transmission, and Distribution (indirect portion only) [BEA 2021]	1.9659
Indirect Jobs Resulting from In-migrating Construction Workers	424
Indirect Jobs Resulting from In-migrating Operations Workers	252
Total Number of Indirect Jobs (includes those resulting from both in-migrating workforces)	675
Estimated Number of Unemployed Adults Available to Fill Indirect Jobs (25% of 1,248 unemployed workers in Study Area)	312
Additional Indirect Jobs That Need to be Filled by Adults Currently Residing Outside of Study Area	363

Table 20 Total Housing Units Required for Project Workforce in 2026

Worker Type (Table 18)	Workers
Construction (95% in-migration)	1,061
Operations (100% in-migration)	128
Indirect Workforce	363
Total Workforce	**1,553**
Use of Housing, Based on Worker Type	**Units**
Construction workers with no family (63.2%)	671
Construction workers who share (50% of those with no families)	335
Estimated number of units construction workers would occupy (2 workers/unit)	168
Construction workers who don't share (50% of those with no families)	335
Construction workers with families (36.8%) (will not share)	391
Operations workers (will not share)	128
Indirect workers (will not share)	363
Total Units Needed	**1,385**

Table 21 Residential Distribution of Preconstruction Workforces in 2026

Preconstruction Workforce Distribution in 2026				
Housing Units	**Lincoln County (Kemmerer and Diamondville)**	**Uinta County (countywide)**	**Sweetwater County (Rock Springs and Green River)**	**Total**
For Sale (vacant)	39	76	124	239
For Rent (vacant)	1	104	893	998
Hotels/Motels (32.7% avail)	102	339	641	1,082
RV Parks (32.7% avail)	75	65	502	642
New Housing (does not include C&M RV park and hotels, as no data avail currently) (50% constructed)	242	33	NA	274
Total Housing Units	**459**	**616**	**2,160**	**3,235**
Project Housing Unit Distribution	459	616	310	1,385
Housing Unit Distribution Percent	33%	45%	22%	100%
Total in-migrating construction workforce (population)	1,189	1,189	1,189	--
Total in-migrating indirect workforce (population)	363	363	363	--
Construction and Indirect Workforce Distribution (worker population)	515	691	347	1,553
Est. increase in population (workers + family members)	1,086	1,458	732	3,277

Preconstruction Workforce Distribution in 2026				
Housing Units	**Lincoln County (Kemmerer and Diamondville)**	**Uinta County (countywide)**	**Sweetwater County (Rock Springs and Green River)**	**Total**
Population Impact (2022 Populations from Table 1)				
Kemmerer	2,640			
Diamondville	700			
LaBarge	259			
Cokeville	423			
Lincoln County Total	**4,022**			
Uinta County Total		**20,546**		
Green River			11,772	
Rock Springs			23,361	
Sweetwater County Total			**35,133**	
Total Study Area Population				**59,701**
Pop increase as percent of 2022 population	**27%**	**7%**	**2%**	**5%**

Source: USCB 2022a

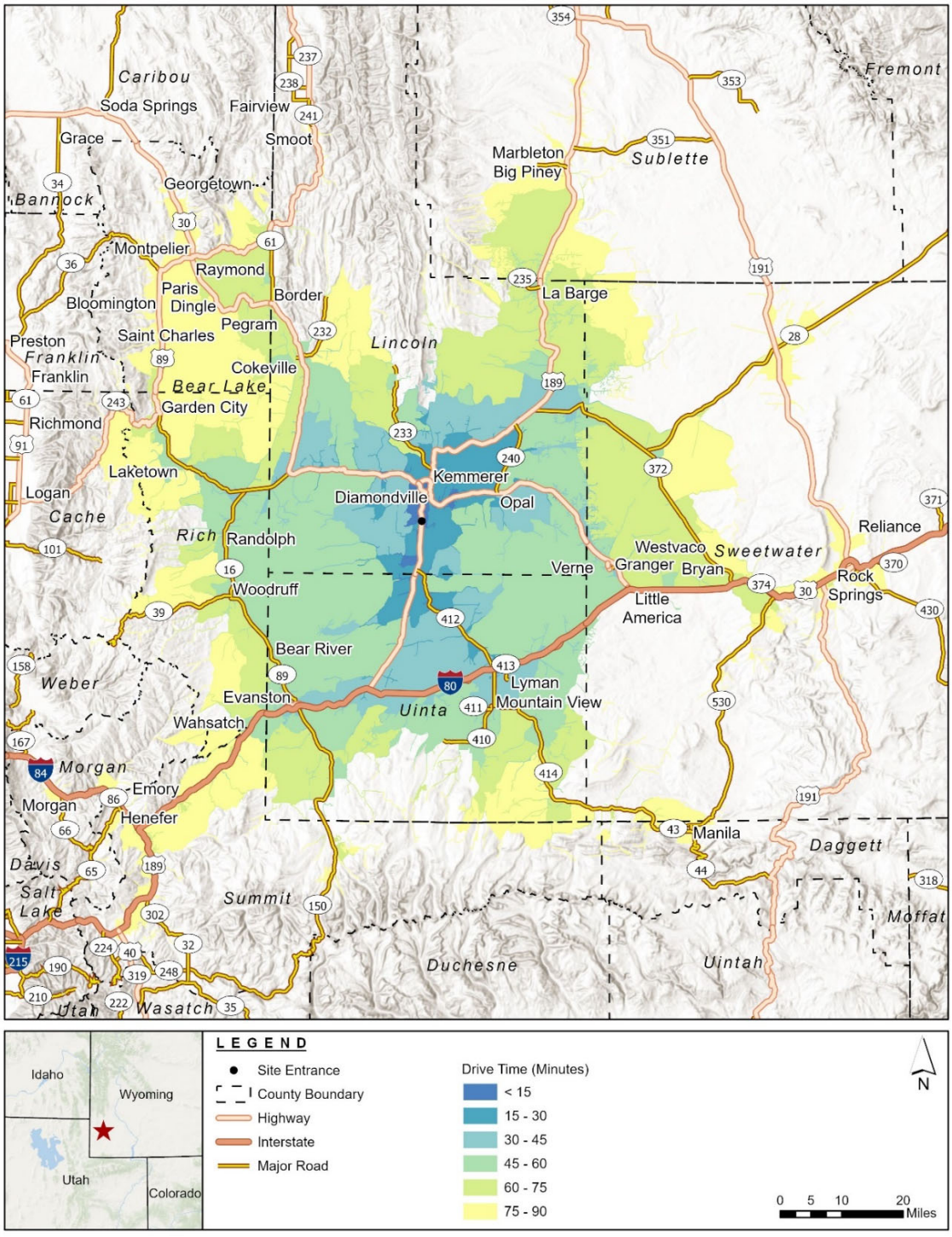

Figure 1 Drive Times for Commuting to Project Site

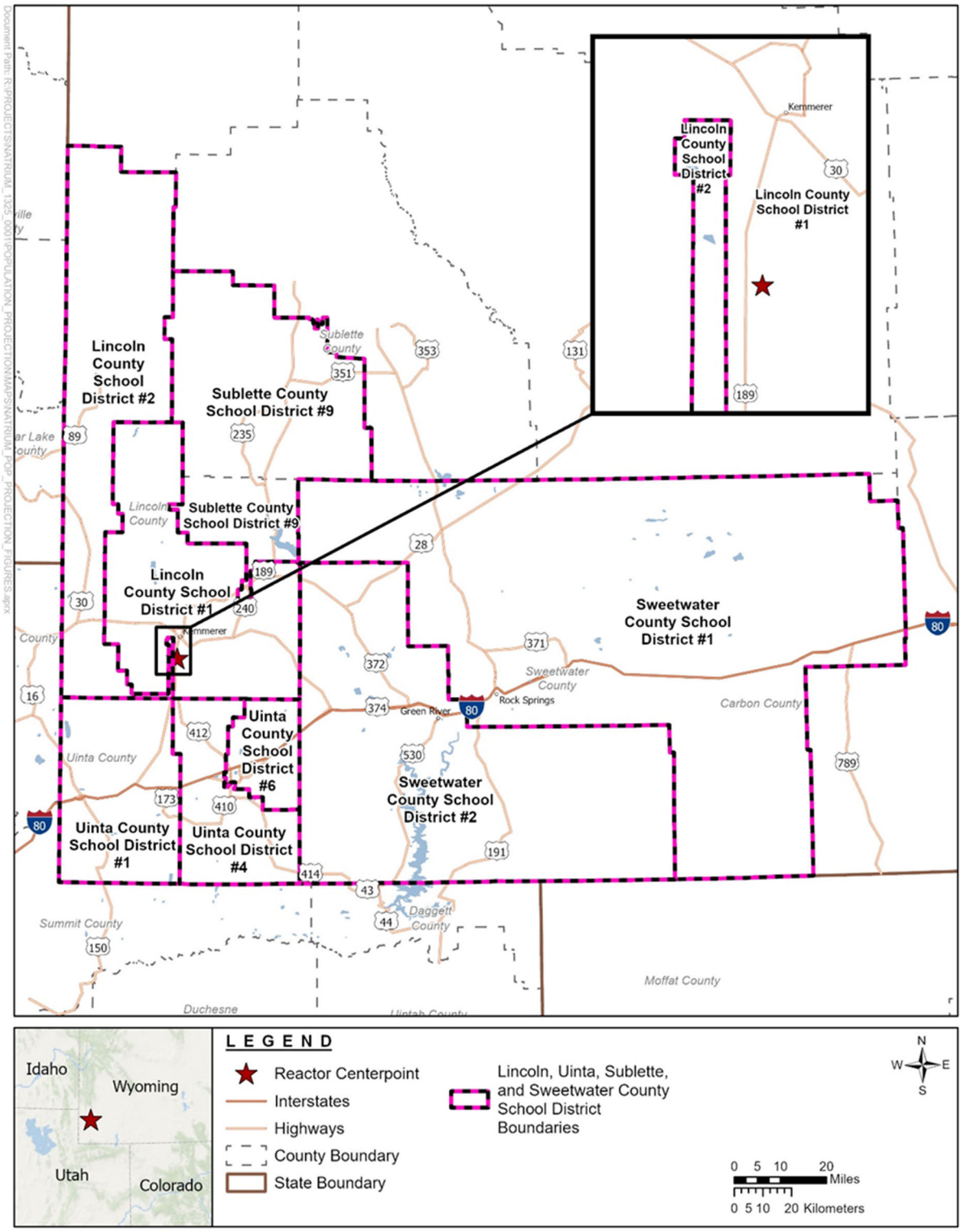

Figure 2 Study Area School District Boundaries

4.0 REFERENCES

Allen 2024. "New Housing in Lincoln and Uinta Counties." Personal communication between N. Hill (Tetra Tech) and S. Allen (South Lincoln County Economic Development Corporation.) May 23, 2024.

Anderson 2024. "Evanston Apartments." Electronic mail between N. Hill (Tetra Tech) and C. Anderson (Boardwalk Industries). June 3, 2024.

BEA (U.S. Bureau of Economic Analysis) 2021. RIMS II Multipliers (2012/2021). Table 1.5 Total Multipliers for Output, Earnings, Employment, and Value Added by Detailed Industry. Lincoln and Uinta Counties, WY (Type II). U. S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C.

BEA 2023a. "CAEMP25N Total Full-Time and Part-Time Employment by NAICS Industry." Available online at https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=1&acrdn=6. Accessed July 11, 2024.

BEA 2023b. "CAINC1County and MSA Personal Income Summary: Personal Income, Population, Per Capita Personal Income." Available online at https://apps.bea.gov/iTable/iTable.cfm?reqid=70&step=1&acrdn=6. Accessed June 11, 14, and 15, 2024.

Bergman 2022. "Fossil Island Golf Club Attendance." Personal communication between N. Hill, Tetra Tech, and L. Bergman. Fossil Island Golf Club. April 20, 2022.

BLM (U. S. Bureau of Land Management) Undated a. "Fontenelle Creek Recreation Area." Available online at https://www.blm.gov/visit/fontenelle-creek-recreation-area. Accessed May 2, 2022.

BLM Undated b. "Slate Creek Campground." Available online at https://www.blm.gov/visit/slate-creek-campground. Accessed May 2, 2022.

BLS (U.S. Bureau of Labor Statistics) 2022. "Union Membership. Table 5. Union affiliation of employed wage and salary workers by state." Available online at https://www.bls.gov/news.release/union2.toc.htm. Accessed December 5, 2022.

BLS 2023. "Quarterly Census of Employment and Wages." Available online at https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables. Accessed July 14, 2024.

BLS 2024. "Local Area Unemployment Statistics." Available online at https://www.bls.gov/lau/tables.htm. Accessed July 11, 2024.

Braband 2022. "RV Park Utilization." Personal communication between N. Hill (Tetra Tech) and B. Braband (Foothills RV Park). December 20, 2022.

Braband 2024. "Foothills Mobile Home and RV Park Expansion." Personal communication between N. Hill (Tetra Tech) and B. Braband (Foothills RV Park). May 30, 2024.

Collins 2022. "Fossil Butte National Monument and Visitor Center Attendance." Personal communication between N. Hill, Tetra Tech, and J. Collins., Fossil Butte National Monument and Visitor Center. April 18, 2022.

Coyle 2024. "Gateway Development and Canyon Road Development Projects." Electronic mail between M. Romano (Bechtel Corporation) and S. Coyle (SNC Investment Partners). June 14, 2024.

FBPB (Fossil Basin Promotion Board) 2021. “Attractions.” Available online at https://fossilbasin.org/attractions/. Accessed April 14, 2022.

FIGC (Fossil Island Golf Club) Undated. “Golf at Fossil Island.” Available online at https://fossilislandgc.com/. Accessed April 19, 2022.

Green, T. 2022. Wyoming Department of Education. “Student-Teacher Ratios in Wyoming.” Electronic mail to N. Hill, Tetra Tech from T. Green, Wyoming Department of Education on November 3, 2022.

Gunter 2022. “RV Park Utilization.” Personal communication between N. Hill (Tetra Tech) and G. Gunter (Riverside RV Park). December 20, 2022.

Julian 2022. “RV Park Utilization.” Personal communication between N. Hill (Tetra Tech) and M. Julian (Cowboy Joe's RV Park). December 20, 2022.

LA 2024. Little America Hotel. 2024. "Little America RV Park." Available online at https://wyoming.littleamerica.com/rv/. Accessed May 10, 2022.

Kemmerer Undated. “Welcome to the City of Kemmerer.” Available online at https://www.kemmerer.org. Accessed April 19, 2022.

Kemmerer 2021. "City of Kemmerer. Financial Statements. June 30, 2021." Available online at http://www.kemmerer.org/ wp-content/ 2022/02/PDF-Financial-Statements-City-of-Kemmerer-2021.pdf. Accessed September 14, 2022.

Lincoln County 2021. "Lincoln County, Wyoming. Financial Statements. June 30, 2021." Available online at https://cms5.revize.com/revize/lincoln/Document_center/Government/Treasurer/Audit/2021%20AUDIT.pdf. Accessed September 14, 2022.

Liu 2023. “Sales and Use Taxes”. Personal communication between N. Hill (Tetra Tech) and W. Liu (Administrator-Chief Economist, Wyoming Department of Administration and Information, Economics Analysis Division). February 28, 2023.

NPS (National Park Service) 2020. “Fossil Butte National Monument Fossils.” Available online at https://www.nps.gov/fobu/learn/nature/fossils.htm. Accessed April 18, 2022.

NPS 2022. “National Historic Landmarks. List of NHLs by State.” Available online at https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm. Accessed April 19, 2022.

Oystergrass (Oystergrass, Incorporated) 2022. “Oyster Ridge Music Festival. History.” Available online at https://www.oysterridgemusicfestival.com/history. Accessed January 12, 2023.

Picerno 2022. “Fossil Country Frontier Museum Attendance.” Personal communication between N. Hill, Tetra Tech, and G. Picerno. Fossil Country Frontier Museum. April 18, 2022.

Recreation.gov 2022a. "Tail Race Campground." Available online at https://campgrounds.rvlife.com/regions/wyoming/kemmerer/tailrace-campground-255539. Accessed May 3, 2022.

Recreation.gov 2022b. "Weeping Rock Campground." Available online at https://www.recreation.gov/camping/poi/14718. Accessed May 3, 2022.

RV Life 2022. "Wyoming RV Park and Campground Reviews. Wyoming RV Parks." Available online at https://campgrounds.rvlife.com/regions/wyoming. Accessed May 2, 2022.

RV Life 2024. "Wyoming RV Park and Campground Reviews. Wyoming RV Parks." Available online at https://campgrounds.rvlife.com/regions/wyoming. Accessed July 17, 2024.

Slovernick 2022. “J. C. Penney House Museum Attendance.” Personal communication between N. Hill, Tetra Tech, and L. Slovernick, J. C. Penney House Museum. April 18, 2022.

STR (Smith Travel Research, LLC) 2023a. "Participation List request." Electronic mail from Melinda, STR Trend Department, to N. Hill, Tetra Tech, Inc. January 19, 2023.

STR 2023b. "RE: FW: Participation List request [Case: 100551833]." Trend # 1399415_SADIM / Created February 01, 2023. Electronic mail from Sheila Sanders, STR Trend Department, to N. Hill, Tetra Tech, Inc. February 2, 2023.

USCB (U.S. Census Bureau) 2010. "P1. Total Population.” Decennial Census. DEC Summary File 1. Available online at https://data.census.gov/advanced. Accessed July 10, 2024.

USCB 2014. "American Community Survey and Puerto Rico Community Survey 2014 Subject Definitions." Available online at https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2014_ACSSubjectDefinitions.pdf. Accessed December 19, 2022.

USCB 2020. "P1. Total Population.” DEC Demographic and Housing Characteristics. Available online at https://data.census.gov/advanced. Accessed July 10, 2024.

USCB 2021a. "S1101. Households and Families." ACS 5-Year Estimates Subject Tables (2017–2021). Available online at https://data.census.gov/advanced. Accessed May 30, 2023.

USCB 2021b. "B05009. Age and Nativity of Own Children Under 18 Years in Families and Subfamilies by Number and Nativity of Parents." ACS 5-Year Estimates Detailed Tables (2017-2021). Available online at https://data.census.gov/advanced. Accessed May 30, 2023.

USCB 2022a. "DP05. ACS Demographic and Housing Estimates.” ACS 5-Year Estimates Data Profiles. Available online at https://data.census.gov/advanced. Accessed July 16, 2024.

USCB 2022b. "DP04. Selected Housing Characteristics." American Community Survey 2018-2022 5-Year Estimates Data Profiles. Available online at https://data.census.gov/advanced. Accessed July 15, 2024.

USCB 2022c. "B25004. Vacancy Status." American Community Survey 2018-2022 5-Year Estimates Detailed Tables. Available online at https://data.census.gov/advanced. Accessed July 16, 2024.

WDOE (Wyoming Department of Education) 2020. "Statistical Report Series No. 3. 2019-20 Wyoming School Districts' Financial Reporting and Profile."" Available online at https://portals.edu.wyoming.gov/Reports/(S(clik3ga5hxzuwn1yzxrfdwh1))/Public/wde-reports-2012/finance/stat-3. Accessed September 13, 2022.

WDOE 2021. "Statistical Report Series No. 3. 2020-21 Wyoming School Districts' Financial Reporting and Profile."" Available online at https://portals.edu.wyoming.gov/Reports/(S(clik3ga5hxzuwn1yzxrfdwh1))/Public/wde-reports-2012/finance/stat-3. Accessed September 13, 2022.

WDOE 2023. “Statewide Payment Models, Wyoming School Foundation Program Guarantee, Entitlement and Recapture Calculations, Fiscal Year 2022.” Available online at https://edu.wyoming.gov/for-district-leadership/ school-foundation/. Accessed October 27, 2023.

WDOE 2024a. "Wyoming Statistical Report Series Stat 3 – School District Financial Profiles, Wyoming School Districts' Financial Reporting and Profile." Available online at https://portals.edu.wyoming.gov/Reports/(S(vngtysn24topqfwzq5hjofg1))/Public/wde-reports-2012/finance/stat-3. Accessed May 10, 2024.

WDOE 2024b. "Wyoming Statistical Report Series Stat 2 – School District Enrollment and Staffing Data." Available online at https://edu.wyoming.gov/data/statisticalreportseries-2/. Accessed May 8, 2024.

WDOR (Wyoming Department of Revenue) 2011. "State of Wyoming Department of Revenue. 2011 Annual Report." Available online at https://drive.google.com/file/d/1yPsb_PDRP5Q2VcMh4EKVRsKuonCxwyQd/view. Accessed March 21, 2023.

WDOR 2016. Wyoming Administrative Rules. "Property Tax Valuation Methodology and Assessments (County Assessments)," Chapter 9. Available online at https://rules.wyo.gov/. Accessed February 16, 2023.

WDOR 2019. "State of Wyoming Department of Revenue 2019 Annual Report." Available online at https://drive.google.com/file/d/1Z4PRxVPQoVEeEtD_Dkt38iaLuivHsmDA/view. Accessed April 6, 2022.

WDOR 2020. "State of Wyoming Department of Revenue 2020 Annual Report." Available online at https://drive.google.com/file/d/16Na3Rfn6OnyTgU5O1ADpVwqu0Dy72PQE/view. Accessed April 6, 2022.

WDOR 2022a. "Sale/Use and Lodging Tax Rates by Locality Effective Date 04/01/2022." Available online at https://revenue.wyo.gov/divisions/excise-tax/excise-tax-publications/excise-tax-rate-charts. Accessed April 13, 2022.

WDOR 2022b. "State of Wyoming Department of Revenue, 2021 Annual Report, Revised." Available online at https://revenue.wyo.gov/about-us/dor-annual-reports. Accessed April 6, 2022.

WEAD (Wyoming Economic Analysis Division) 2011. "Wyoming Sales, Use, and Lodging Tax Revenue Report." Available online at http://eadiv.state.wy.us/s&utax/s&u.html. Accessed March 7, 2023.

WEAD 2019. "Wyoming Population Estimates and Forecasts." Available online at http://eadiv.state.wy.us/pop/pop.html. Accessed December 8, 2022.

WEAD 2021. "Wyoming Sales, Use, and Lodging Tax Revenue Report." Available online at http://eadiv.state.wy.us/s&utax/Report_FY21.pdf. Accessed May 27, 2022.

WGFD (Wyoming Game and Fish Department) 2022. "Places to Fish and Boat in Wyoming. Interactive Wyoming Fishing Guide." Available online at https://wgfd.wyo.gov/Fishingand-Boating/Places-to-fish-in-wyoming. Accessed April 22, 2022.

WGFD 2023a. "Frequently Asked Questions. General Hunting." Available online at https://wgfd.wyo.gov/FAQ/General-Hunting-and-Trapping-FAQ. Accessed January 12, 2023.

WGFD 2023b. "Hunter Management Areas." Available online at https://wgfd.wyo.gov/Public-Access/Hunter-Management-Areas. Accessed February 20, 2023.

WGFD 2023c. "Bear River Divide Hunter Management Areas - 2023." Available online at https://wgfd.wyo.gov/Public-Access/Hunter-Management-Areas/Bear-River-Divide. Accessed August 3, 2023.

WLSO (Wyoming Legislative Service Office) 2022a. "2023 Budget Fiscal Data Book." December. Available online at https://wyoleg.gov/2023/Databook/Historical/2023%20Data%20Book.pdf. Accessed July19, 2024.

WLSO 2022b. "Subject: Topic Summary: Industrial Siting." Memorandum from B. Fuller, Senior Staff Attorney, WLSO, to Joint Minerals, Business & Economic Development Interim Committee, WLSO. Accessed April 8, 2022.

Wright 2022. "RV Park Utilization." Personal communication between N. Hill (Tetra Tech) and M. Wright (Kettle Restaurant and Base Camp RV Park). December 27, 2022.

WSCD (Wyoming State Construction Department) 2023. "School Facilities Commission. 2023 Annual Report and 2025-2026 Biennial Budget Request." Available online at https://wyoleg.gov/InterimCommittee/2023/SSF-2023091410-02_2023AnnualReport8.30.23.pdf. Accessed May

WSHPO (Wyoming State Historic Preservation Office) 2022. "National Register by County, Lincoln County." Available online at https://wyoshpo.wyo.gov/index.php/nr-by-county-test/15-lincoln-county. Accessed April 14, 2022.

WSHS (Wyoming State Historical Society) Undated. "The Online Encyclopedia of Wyoming History." Available online at https://www.wyohistory.org/encyclopedia. Accessed January 19, 2023, and February 9, 2023.

WTA (Wyoming Taxpayer's Association) 2021. Wyoming Tax Summary and How Wyoming Compares 2021. Available online at http://wyotax.org/wp-content/uploads/2021/11/WTA-How-Wyoming-Compares-2021.pdf. Accessed April 1, 2022.

ZBPF (Zion's Bank Public Finance) 2012. "Lincoln Economic Development Plan. December 4, 2012." Available online at https://www.lincolncountywy.gov/government/economic_development/documents___forms.php#outer-21. Accessed April 13, 2022.

APPENDIX C – TerraPower Natrium Project Comment Responses

February 2025

Number	Commenter	Comment Summary	Response
1-1	WYDOT	Commenter requests to include reference to the supplemental traffic studies.	Citation for second traffic study (FHU 2024) inserted in Section 3.3.6.2, and the following reference listing was added to Section 5: FHU (Felsburg Holt & Ullevig) 2024. "Kemmerer Power Station Unit 1 Traffic Analysis Report." October 2024. Included as Appendix H-1 to the Wyoming Industrial Development Information and Siting Act Section 109 Permit Application, Kemmerer Power Station Unit 1.
1-2		Commenter recommends concurrent cooperative authorization in relation to the ISD permit application approval timeline.	NEPA does not have a concurrent cooperative authorization process. DOE is scheduled to prepare a Final EA and make a decision on the EA in early 2025.
1-3		Commenter requests EA to identify off-site haul routes and notifies the applicant that a Road Use Agreement with WYDOT to mitigate road damage/geometric modifications caused by hauling activities related to the project would be needed.	As stated in Section 3.3.6.2, "The delivery routes are not known currently. Potential routes within the region would include I-80 to US 189 and US-30 to US-189." No change to the EA. Regarding the Road Use Agreement, an entry was added to Table 2.5-1.
1-4a		Commenter requests for EA to identify the location of material source.	As stated in Section 2.1.3, "The specific backfill or backfill source is unknown at this time." No change to the EA.
1-4b		Commenter states all utility crossings must obtain a utility license.	The scope of preliminary activities does not include (temporary/permanent) crossings of state highways. No change to the EA.

Number	Commenter	Comment Summary	Response
1-4c		Commenter requests EA consider a 100-year storm event for the settling pond design.	The Wyoming Department of Environmental Quality does not provide specific guidance on the design of sediment control measures. The Wyoming Department of Transportation (WYDOT) provides guidance for settling pond sizing in the WYDOT Pollution Controls and Best Management Practices for Storm Water During Construction, Field Guide, April 2011 (page 28). The WYDOT guidance shows that the required surface areas for settling ponds can be determined based on the design inflows and percent of sediment removed. However, the WYDOT Field Guide does not specify the storm return period to consider for the design inflow. For Kemmerer Unit 1, a 2-year storm is selected as a minimum design requirement for construction settling ponds. The 2-year return period is typical for the sizing of temporary settling ponds for construction and is a practice followed by other jurisdictions (e.g., States of Idaho and Utah). Section 2.1.3 has been updated to state the planned 100-year 24-hour storm event resilience.
1-5a		Commenter requests to please provide anticipated overlapping schedules or timeframes of other cumulative industrial project impacts.	Section 2.4.1 of the EA describes past, present, and reasonably foreseeable actions. For activities where potential schedules are publicly available, this information is included.
1-6a		Commenter requests to please add WYDOT to Section 2.5.	The Road Use Agreement was added to Table 2.5-1.
1-7a		Commenter suggests modifying the infrastructure, traffic, and transportation impacts assessment.	Based on the analysis, DOE has not identified any major impacts at this time. No change to EA.

Number	Commenter	Comment Summary	Response
1-8a		Commenter asks if the on-site fencing will redirect wildlife and induce highway crossings.	The on-site fencing would surround the construction site but provide ample room on every side (compass direction) for wildlife to travel east-west or north-south around the site. However, it is expected that most wildlife (big game animals, birds of prey, sage grouse) would avoid the area altogether as there would be a high level of activity during the day (i.e., workers and equipment moving about, loud noises, smells of petroleum products and exhaust fumes), and it would be brightly lit at night with a lower (but not insignificant) level of activity and noise. Construction-phase fencing would not be built or oriented in ways that would direct wildlife to the site or encourage wildlife to gather there. The fencing and associated construction activity are likely to push wildlife away from the area and discourage crossings. Based on the current schedule, Kemmerer Unit 1 construction would begin in 2025 and be completed by spring 2030. WYDOT's Highway 189/Kemmerer wildlife crossing project is scheduled to start in late 2025 or 2026 and be completed by November 2028. The project would entail the installation of higher, more-substantial fencing along Highway 189 and at least one wildlife overpass, approximately 5 miles south of the Kemmerer Unit 1 site. Once the wildlife crossing has been completed, wildlife would be expected to follow high fences to the underpass immediately adjacent to and northwest of the Kemmerer Unit 1 site or the overpass that WYDOT intends to build approximately 5 miles south of the site.
1-9a		Commenter writes about utility crossing permitting procedures through WYDOT.	The scope of the preliminary activities does not include utility construction or connection within the WYDOT ROW. No change to the EA.
1-9b		Commenter notes only single direction of traffic reported.	The source, WYDOT 2024a, is the 2023 Vehicles Miles Book. The source was reviewed in response to this comment and confirmed that volume was single direction. The volumes for the intersections mentioned in the comment were updated. The corrected volumes were between 13,488 to 14,794 AADT.

Number	Commenter	Comment Summary	Response
1-9c		Consider additional traffic mitigation measures such as staggered work times during construction.	Comment Noted. Section 3.3.6.2 discusses the potential of staggered work hours for the KU 1 preliminary activities as potential best management practices by TerraPower. It is expected that staggered start times and end times would reduce congestion during peak commute times as well as some expected carpooling among construction workers. Moreover, there may be staggered hours expected between the EI and NI workers to alleviate some peak traffic. This will be further analyzed in greater detail in the NRC's EIS.
1-9d		Request to remove mention that WYDOT made a statement, as the author of the traffic study made the comment, not WYDOT.	The statement was deleted.
1-9e		Request to substantiate a statement regarding change in traffic conditions from LOS A to D.	Section 3.3.6.2 of the EA was revised to: The total of southbound and northbound vehicles (1,096) is similar to the peak number of workers (1,245). As shown in Figure 3.3.4-3, this peak number of workers is projected for the final month of preliminary activities and workers are not projected to be above 1,000 until July 2026. Therefore, the analysis in the traffic study for the site access permit is informative for the Proposed Action timeframe. The total number of vehicles considered in the traffic study (1,096) is greater than the potential peak of vehicles traveling to the site except for the final three months of preliminary activities. Further, some workers would normally be expected to carpool even without on-site parking constraints. Therefore, the change in traffic conditions from LOS A to D would be bounding for the preliminary activities.
1-9f		Commenter suggests the second traffic study bound Kemmerer, Evanston, and Granger.	The scope of the expanded traffic study has been reviewed with WYDOT Region staff. It does not include Evanston, WY 412 at I-80 (Lyman/Fort Bridger) or Little America.
1-9g		Commenter requests to include other regionally cumulative industrial projects in the traffic study.	The traffic study prepared by FHU includes the traffic estimated for cumulative projects within the background traffic growth factor.

Number	Commenter	Comment Summary	Response
1-9h		Request to update EA based on comments on the WYDEQ ISD permitting process.	The letter communicating WYDOT's comments on the ISP (J. B. Eddins, WYDOT to J. Staeben, WYDEQ, Re: Kemmerer Power Unit 1 Wyoming Industrial Siting Council Docket DEQ/ISC 24-03 State Agency Comment Form, November 21, 2024) was reviewed. The letter's general and specific comments are addressed through the responses to WYDOT comments on the EA or the comment was specific to the ISP with the following exception: Section 3.3.6.2 states, "Truck shipment arrivals and departures would be typically outside of peak commuting hours." No change to EA.
1-9i		Commenter notes that as stated in Section 4.0 of the traffic impact study, other intersections and roadway segments must be addressed in a future regional traffic study as part of the WYDEQ ISD permitting process.	Noted. Also see response to 1-9b.
2-1	TerraPower	Commenter suggested to rephrase a section of text to reflect the state of work with GNF-A.	Section 1.1.1 has been updated to reflect the state of work with GNF-A.
2-2		Commenter indicates 35,081 or rounded 35,000 square feet as the metric for the Kemmerer Training Center.	Section 2.1.4.2 has been updated to reflect 37,000 gross square feet for the KTC building.
2-3		Commenter notes inconsistency to state the RXB depth reaches "approximately 56ft," pointing to "Plant datum 6758` less PSAR Table 2.5-39 reactor shaft depth 6639`" and the impression of ~120` deep.	Text in 2.1.4.5 has been updated to reflect the correct reactor shaft depth (correctly the impression of ~120' deep) rather than the SSC base elevation.

Number	Commenter	Comment Summary	Response
2-4		Commenter suggests applying a footnote similar to one used in the TFF EA to describe the term major impacts.	Footnote incorporated.
2-5		Commenter notes inconsistency about waste disposal. Section 2.1.5.4 states three trucks each week. Table 3.2-1 states four trucks each week.	Table 3.2-1 has been updated to reflect information of Section 2.1.5.4 in which estimate of three trucks each week should inform the latter.
2-6		Commenter inquires about other areas of the project in reference to "The EI would be constructed… negligible" within Table 3.2-1: "Air Quality and Climate Change."	For the NI, the design basis flood event is the postulated hydrologic dam failure due to the probable-maximum-precipitation event with a coincidental probable-maximum-flood flood event. The water levels resulting from this dam breach event are combined with 2-year wind setup and wave runup to estimate the maximum flood levels at the site. The NI grade elevation at the top of the embankment slope is above the maximum flood level due to dam breach event. Climate change effects are included in this assessment. Table 3.2-1 has been updated with additional information concerning the hypothetical 500-year precipitation event's effect on safety of the NI and other areas of the project.
2-7		Commenter indicates to consider changing "would" to "could," as methods will be implemented that do not compromise security.	Changes incorporated in Sections 2.6.4 and 3.3.1.2.
3-1	WDEQ	Commenter recommends that the EA identify surface and ground waters in proximity to the project area, evaluate potential impacts to those waters, and identify strategies to minimize potential impacts. Commenter expects primary potential impacts would be associated with discharged sediment, salinity, and other pollutants as a result of construction activities.	Section 3.3.3 of the EA has been updated for clarity and to identify specific mitigation strategies.

Number	Commenter	Comment Summary	Response
4-1	CLG	Commenter inquires whether livestock trails need to be moved or if there is risk of collision due to increased traffic. Commenter requests that the EA acknowledge a conclusion concerning impact to livestock in consideration of sheepherders and grazing near the site – noting that the Draft EA mentions "15 sheepherders" near the site in the fall and spring seasons.	Discussion regarding impacts to livestock has been added to Section 3.3.1.2. Livestock collisions due to increased traffic may occur, more likely with free range cattle than sheep because sheep would be protected by the herder and guided away from roadways. Ultimately, the loss of the acreage converted to industrial use (approximately 290 acres) is a small percentage (less than one percent) of the available range (337,659 acres) and would not prevent the herds moving through the area to travel from winter to summer range.
4-2	CLG	Commenter notes inconsistency in how the EA states there would be "no permanent power, water, or sewer connections" – but also states that the "installation of electrical trenches, underground piping, and stormwater management systems" would occur.	Regarding the "Other Activities" bullet on page 8 concerning the installation of site underground duct banks and piping, this bullet is specific to emplacement of electrical infrastructure and piping within the Kemmerer Unit 1 site boundary enabling them to be ready for connection to utility (permanent or temporary) services later, which would occur after the proposed Preliminary Activities. No change to EA. Construction-related activities would be analyzed as part of NRC's EIS.

Number	Commenter	Comment Summary	Response
4-3	CLG	Commenter asks if the work associated with electrical trenches and underground pipelines is only for temporary power or also where permanent connections would be located? Would any utility trenches be left open after preconstruction work to allow for placement of other permanent utilities when Kemmerer Unit 1 is constructed?	Regarding if any utility trenches would be left open at the end of the preconstruction work, trenching work would be in accordance with applicable stormwater and erosion control permits and best management practices, as well as construction site safety practices/requirements. As described in the KU1 Environmental Report Section 3.3.1.1, *Preconstruction Activities, Earthwork, Spoils and Laydown Areas, and Stormwater Management Pond Establishment*, Phase C: "Areas will be taken to a common sub-grade elevation for further excavations for specific commodities such as foundations, duct banks, and underground pipe. Areas will be left open, with temporary drainage, to accommodate installation of these commodities. Backfill will occur as installation completes. Individual areas such as foundations and pipe will be backfilled directly after completion." Also, KU1 Environmental Report Section 3.3.2.1, *Building Activities After NRC EIS Issuance, Earthwork* states, "Phases C and D earthwork will continue on the NI as described in Section 3.3.1.1." Therefore, earthwork activities would be seamless from preconstruction into construction activities, and some trenches could be open as the site enters the construction activities timeframe. No change to the EA is needed.
5-1	Mary Crosby	Commenter expressed support for the project and NEPA process.	Comment noted. No changes to EA.