

**KIT CARSON ELECTRIC COOPERATIVE
TAOS HYDROGEN FACILITY**

Taos County, New Mexico

Prepared for:

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List of Acronyms

AC	Alternating Current
ACHP	Advisory Council on Historic Preservation
AOI	Area of Influence
BISON-M	Biota Information System of New Mexico
BMP	Best Management Practices
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CR	County Road
CWA	Clean Water Act
DC	Direct Current
DOD	Department of Defense / Depth of Discharge
DOT	Department of Transportation
EA	Environmental Assessment
ENE	EN Engineering
EPA	Environmental Protection Agency
ERA	Empowering Rural America
FPPA	Farmland Protections Policy Act
HWY	Highway
IPA	Important Plant Area
IPaC	Information for Planning and Consultation
KCEC	Kit Carson Electric Cooperative
KW	Kilowatts
LOI	Letter of Interest
MBTA	Migratory Bird Treaty Act
MW	Megawatts
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NM	New Mexico
NMCRIS	New Mexico Cultural Resources Information System
NMDGF	New Mexico Department of Game and Fish
NMDOT	New Mexico Department of Transportation
NMSHPO	New Mexico State Historic Preservation
NOFO	Notice of Funding Opportunity
NPA	Nationwide Programmatic Agreement
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historical Places
OAHP	Office of Archaeology and Historic Preservation
O&M	Operations and Maintenance
OSE	Office of the State Engineer
PACE	Powering Affordable Clean Energy
POD	Point of Diversion
RD	Rural Development
RER	Renewable Energy Resource
SHPO	State Historic Preservation Officer
TDAT	Tribal Directory Assessment Tool

THPO	Tribal Historical Preservation Officer
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
VOC	Volatile Organic Compounds

Introduction

Kit Carson Electric Cooperative (KCEC) is proposing to install a hydrogen facility in Taos, New Mexico (NM) to implement reliable energy strategies. The proposed facility will be referred to as KCEC Taos Hydrogen Facility. The exact location and site characteristics for the Project can be found in **Appendix A**. The site is located just south of Los Cordovas Rd and just west of the Taos wastewater treatment plant. The site is currently part of a larger 113.44-acre parcel (1069146462198). A physical address for the wastewater treatment plant just east of the site is 182 Los Cordovas Rd. Ranchos De Taos, NM 87557. Total site area will be approximately 6 acres.

To support this initiative, KCEC is seeking financial assistance from the New Empowering Rural America (ERA) Program. The United States Department of Agriculture's (USDA) Rural Utilities Service (RUS), pursuant to the Notice of Funding Opportunity (NOFO) published in the Federal Register May 16, 2023. KCEC submitted a Letter of Interest (LOI) and received a notice of award from RUS on September 13, 2023.

ENTRUST Solutions Group (ENE) has prepared this environmental assessment (EA) in accordance with 7 CFR 1b.5 – Environmental Policies and Procedures to fully comply with the National Environmental Policy Act (NEPA) of 2025. The older act has been rescinded. The purpose of this EA is to determine existing environmental resources that may or may not exist within the Project scope, assess potential impacts associated with the proposed Project, and evaluate the Project's potential impact on these resources. Alternatives to the proposed action, as well as the chosen action, have been considered and evaluated in the following sections of the EA. The chosen alternative was analyzed using guidelines established in 7 CFR 1b.5 as well as those established in the USDA Rural Development (RD) EA preparation instructions (7 CFR 1b.5).

1.1. Project Purpose and Need

The USDA's Rural Development program, specifically RUS, provides funding in an effort to expand crucial utility infrastructure in rural communities and develop new infrastructure where it is needed. The goal of this funding program is to help provide economic opportunity and increase accessibility to local utilities in rural areas.

KCEC is seeking financial assistance from RUS to remain at the forefront of renewable energy innovation. The Project will help achieve KCEC's strategic goal of building solar capacity over time. In 2016, KCEC created the goal of 100% daytime solar by 2022. This Project will provide more affordable, sustainable, and renewable energy throughout KCEC's service area, thereby improving the natural and human environment.

The goal of the Project is to reduce the reliance on fossil fuels specifically the heavy dependence on coal, a declining industry in New Mexico. Under the 2019 Energy Transition Act, New Mexico has been moving away from coal and more towards renewable options. This will allow for the recycling of more natural materials such as hydrogen and oxygen. Comparatively, the footprint of hydrogen plants is smaller than that of larger gate stations.

The implementation of a hydrogen facility with state-of-the-art infrastructure aims to directly lower the dependence and usage of fossil fuels and the associated maintenance of such systems. The power generated from a hydrogen fuel cell offers zero emissions due to heat and water being the only byproducts. Due to this, hydrogen storage facilities are not subject to fuel spill containment and air quality reporting requirements (Plug, 2024). When compared to the maintenance of combustion

generators from coal, hydrogen storage systems can be monitored remotely and require little upkeep. This would drastically decrease the operational and maintenance costs in the long term. Shifting to a more environmentally responsible source of energy would empower the local region to achieve energy independence.

2.0 Alternatives Evaluated and Proposed Action

2.1. Alternatives Considered but Dismissed

The push for the establishment of clean hydrogen development is backed by two executive orders made by the State of New Mexico in 2021 and 2022. In response, KCEC initiated research into alternative energy solutions that align with these directives. As part of this effort, KCEC engaged with the Communities Local Energy Action Pilot (C-LEAP) program to deepen its understanding of clean hydrogen technologies and explore viable renewable energy options.

Several alternatives were evaluated including wind energy and long-duration storage solutions such as biofuels, natural gas, and hydropower. However, in comparison to hydrogen facilities, these options were found to be either overly reliant on fossil fuels or dependent on limited natural resources, making them less suitable for long-term resilience (Mai et al., 2022).

KCEC is currently in the process of acquiring a 25 year lease for the land described in Section 1.0 for the construction of proposed hydrogen production and storage facility. Siting the proposed facility elsewhere would necessitate additional long-term negotiation pertaining to land rights, water rights.

2.2. No Action Alternative

Under the “No Action” alternative, funding would not be obtained, and work would not be completed to develop and construct the Project. The overall objective of the Project is to provide clean energy to reduce the environmental impact of fossil fuel emissions. This “No-Action” alternative would not take advantage of the environmental benefit. KCEC would not complete its goal for this community to achieve energy independence. This “No-Action” alternative does not achieve the Project’s purpose and need. This alternative has been assessed regarding each environmental resource but will not have any impact on them.

2.3. Proposed Action

Under the “Proposed Action” alternative, KCEC is proposing to install a hydrogen facility in Taos, Taos County, NM. The facility is proposed to be located adjacent to an existing wastewater treatment facility, located at 182 Los Cordova Road, Ranchos De Taos (Parcel #106914662198). This parcel is approximately 113 acres in size. The layout of the hydrogen facility is approximately 6 acres in size, and is proposed to be sited within the larger parcel. Exact location and site characteristics for the Project can be found in **Appendix A**.

The proposed facility would consist of a 17 MW electrolyzer, a hydrogen storage unit capable of storing 8.5 tons, and a 7.5 MW fuel cell. This facility is expected to generate approximately 35,588 MWh annually. Water required for the operation of the Hydrogen facility will be supplied by the adjacent wastewater treatment facility. This innovative Project looks to leverage KCECs existing solar facilities for power, using solar energy during the daytime, and the stored energy during the

night. The proposed location and layout of the site can be seen in **Appendix A**.

2.3.1. Operations, Maintenance and Decommissioning

Ongoing operations and Maintenance (O&M) activities will primarily consist of preventative maintenance, safety inspections and scheduled equipment inspections, calibrations, recertifications, and parts replacements depending on manufacturer specifications (monthly, quarterly, annual, etc.). Examples include leak surveys of hydrogen-carrying components at regular intervals, annual calibrations of hydrogen sensing equipment, and inspections plus recertifications of hydrogen storage vessels. Additionally, personnel will receive regular training on hydrogen hazards, leak detection, and emergency procedures, and the facility will coordinate with local fire departments and emergency responders to conduct joint drills and ensure readiness. The anticipated lifecycle of the core hydrogen equipment is over 20 years. Decommissioning of the Project can be reevaluated after the Project's lifecycle. Less consistent routine maintenance will include software updates, staff training, and emergency response plan updates.

Water for hydrogen production will be sourced from the adjacent wastewater treatment plant (effluent wastewater) and will be piped to the hydrogen production facility. Any reject water (purified excess water) from the hydrogen production process and water generated from hydrogen fuel cells will be piped back to nearby natural waterways. Oxygen that will be a byproduct of the hydrogen production process and is proposed to be vented to atmosphere in a safe and compliant manner.

3.0 Affected Environments

According to 7 CFR 1b, EAs are to include all potential environmental resources that may be impacted by the proposed Project. EA has established that several resources as listed in 7 CFR 1b do not apply to the project. These resources will be discussed in Section 3.1. Each affected resource has been examined as it relates to the Proposed Action and has been given an impact rating depending on severity. The impact ratings are as follows:

Negligible – Resource will be minimally impacted, or impacts will be a non-factor because of the Alternative.

Minor – Resource will be impacted enough to cause a noticeable change to existing conditions or the resource itself.

Major – Resource will be substantially changed or impacted by the Alternative

It is important to note that some effects will have varying degrees within these categories, but overall impacts were averaged to best describe the site impacts.

3.1. Methodology and Resources Eliminated from Consideration

ENE performed comprehensive research using publicly available information and mapping to develop a categorical list of potentially affected environmental resources consistent with 7 CFR 1b. A list of references and sources used to supplement research can be found in Section 6.

Several environmental resources listed in the 7 CFR 1b document were considered but dismissed because the Proposed Action had no impact on them. The area in which research was completed is known hereon as the study area of Project Area interchangeably. Resource areas that were eliminated from further study and the rationale for elimination are presented below:

- **Floodplains** – The Federal Emergency Management Agency (FEMA) maintains a web database of national flood hazard layers (NFHL) throughout the U.S. According to the NFHL viewer, there are no floodplains that exist within the Project site (see **Appendix A**). The area is listed as Zone X, or area of minimal flood hazard, according to FEMA. The closest FEMA regulated floodplain is that of an unnamed tributary to the Rio Pueblo de Taos just east of the Project. Neither the Proposed Action nor the No-Action alternative will impact the floodplain.
- **Wetlands and Waterways**. According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping, no environmental resources are mapped within the Project site (see **Appendix A**). However, a riverine system (unnamed tributary to the Rio Pueblo de Taos) is located just east of the Project site. An on-site investigation was performed in June of 2025 by ENE’s wetland scientists to determine the presence or absence of potentially jurisdictional wetlands or waterways within the Project site. It was determined that no resources exist on site. The complete wetland report can be found in **Appendix C**. Neither the Proposed Action nor the No-Action alternative will impact any wetlands or waterways and will therefore not require and U.S. Army Corps of Engineering permitting.
- **Water Resources** – According to available aerially imagery and U.S. Geological Survey (USGS) streamStats tool, the Project site contains no water resources within the proposed work area. ENE’s environmental scientists confirmed the absence of resources during a site visit in June 2025. confirmed during ENE’s site visit. However, an intermittent channel, an Unnamed Tributary to Rio Pueblo de Taos, exists east of the site but outside of the Project area. The Project will have no impact on this waterway.

Based on ENE’s field visit and monitoring documents from Souder, Miller and Associates a ground water monitoring well exists on site, well data can be seen in **Appendix L**. Based on the New Mexico Office of the State Engineer (OSE) there are no drinking water wells located on the Project site (see **Appendix A**). However, there is an active well just west of the site behind an existing solar field. The well is listed as a Domestic One Household. Additionally, there are four locations north of the Project site that have expired permits for a POD and the status is listed as pending. According to the U.S. Department of Agriculture Web Soil Survey (**Appendix B**), the site has a general water table depth of more than 80 inches. Additionally, no sole source aquifers exist under the Project area (EPA, 2025). Mapping from the New Mexico Environment Department also shows no underground storage tanks within the Project area (**Appendix A**).

A soil analysis will be performed prior to construction. Any excavation related to project construction will be temporarily, and eventually permanently, stabilized. On-site best management practices and perimeter controls will be in place during the construction phase to limit stormwater runoff and protect surrounding resources. Neither the Proposed Action nor the No-Action alternative impact groundwater tables or existing water sources.

- **Coastal Resources** – NM has no coastal zones or barrier reefs. Both the “No-Action” alternative and Proposed Action will have no impact on coastal resources.
- **Corridor Analysis** – The proposed Project includes the installation of a clean hydrogen facility and battery energy storage facility within a defined and limited parcel. There are no linear elements and therefore a corridor analysis has not been completed.

- **Formally Classified Lands** – Composite GIS datasets of formally classified federal lands including Bureau of Land Management (BLM), Bureau of Reclamation, Department of Defense (DOD), Fish and Wildlife Service (USFWS), Forest Service, and National Park Service managed lands was assessed in relation to the Project site. According to available mapping and site resources, there are no formally classified lands within the Project parcel, therefore, no impacts are expected. The Project will not expand beyond the limits under the ownership of KCEC.
- **Acequias** - According to information made available online by the Acequia Mapping Project, there are no acequias with in the Project site. The nearest acequia is roughly 1.8 miles from the project area.

3.2. Land Use

3.2.1. General Land Use

Affected Environment

The USDA promotes adherence to existing site uses where possible so that development or work on a site does not change the land use and, as a result, negatively impact important land resources. National Land Cover Database mapping shows the project parcel is designated as shrub/scrub. Based on Google Earth historical aerial imagery, no development was present within the Project area going back to 1985. The adjacent wastewater treatment plant was built before 1985 and remains in operation. Two solar arrays exist to the south of the Project site. Both arrays were installed between 2021 and 2023 and remain in operation (Google Earth, 2025).

The 6-acre Project site is located approximately 350-ft to the west of the existing wastewater treatment plant. This plant is located at 182 Los Cordovas Rd., Ranchos De Taos, NM and the coordinates are (36.373806, -105.656961). Based on the National Priorities List (NPL) of Superfund sites from 2011 by the Environmental Protection Agency (EPA) the proposed Project site is not a super fund site and there are none within close proximity. This can be seen in the map in **Appendix A**. However, evidence was provided by the Town of Taos that the site has previously been used as a sludge field by the wastewater treatment plant. Testing of the soil on September 8th, 2025 showed no evidence of heavy metals within the soil, the data can be seen in **Appendix K**. Any change to current land use which safely utilizes unproductive land can be viewed as a positive development.

Environmental Consequences – No Action

The no action alternative will not impact or change land use within the Project Site.

Environmental Consequences – Proposed Action

Site grading may be required where the hydrogen facility is proposed to be constructed. Select fill may be imported in order to fulfill grading requirements. Vegetation onsite may be affected due to proposed project. The decommissioning of the facility can be reevaluated towards the end of its lifecycle, 20 plus years after the facility is brought online. Due to the relatively unproductive status of the current land use, impacts associated with the proposed Project are considered negligible.

3.2.2. Important Farmland

Affected Environment

The Farmland Protection Policy Act (FPPA) outlines requirements and limitations set forth to protect important farmland from irreversible conversion to non-agricultural uses. The presence or absence of listed important farmland within the Project area was assessed using the Natural Resource Conservation Service's (NRCS) Web Soil Survey. According to NRCS Web Soil Survey (**Appendix B**), the site is composed of Sedillo-Silva association with a 0 to 25% slope, and there is no indication of prime farmland within the Project area. A map of the soil within the Project site and a map showing the lack of prime farmlands within the Project site can be found in **Appendix A**.

The FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural use. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Site grading may be required where the hydrogen facility is proposed. It is assumed that fill material will not be imported to accomplish grading.

Environmental Consequences – No Action

The no action alternative will not impact or change important farmland within the Project site.

Environmental Consequences – Proposed Action

ENE correspondence with USDA, NCRS identified that this Project will not cause prime farmland or hydric soils to be converted to non-agricultural or non-hydric uses (**Appendix H**). For the purpose of the FPPA, all aspects of this project will occur without the permanent conversion of farmland and is not subject to the FPPA. Impacts are therefore determined to be negligible.

3.3. Biological Resources

3.3.1. Fish, Wildlife, and Vegetation Resources

Affected Environment

New Mexico Department of Game and Fish (NMDGF) states that mule, elk, and other various animals migrate through NM seasonally in search for plant growth as a food source. Animals move from higher to lower elevations during the colder months and the opposite during the warmer months. Based on data from The United States Geological Survey's (USGS) Ungulate Migrations of the Western United States, Volume 5 animals that may be present on or around the proposed Project include mule deer and elk. Upon ENE's site visit in June 2025, it was discovered that there is a high presence of prairie dogs that should be taken into account during construction. ENE also consulted NMDGF to make them aware of the project moving forward in turn NMDGF provided potential effects and recommendation regarding surrounding wildlife (see **Appendix J** for full report). It was found that Gunnison's prairie dog colonies may occur within the vicinity of the Project area. The Gunnison's prairie dogs are considered to be species of greatest conservation need (SGCN) according to NMDGF. Additionally, prairie dog colonies provide important habitat for other grassland wildlife. The Project area is also located on an Important Plant Area (IPA), areas identified by the New Mexico Energy, Minerals, and Natural Resources

Department (EMNRD) and USFWS. The Project site is located mostly within IPA 21, which is classified as B1, the highest conservation priority ranking, a map can be found in **Appendix A**. IPAs support either a high diversity of sensitive plant species or contain the last remaining locations of New Mexico's most endangered plants. The IPA has no legal designation; however, this is important to note when deciding amounts of vegetation that need to be cleared.

Environmental Consequences – No Action

The no action alternative will not impact any wildlife or vegetative resources within the Project site.

Environmental Consequences – Proposed Action

The site does not contain any forested areas and there are no water resources on site. Potential impacts due to the Project stem from the clearing of vegetation. The vegetation onsite that is proposed to be cleared may have a slight effect on wildlife in terms of reducing potential food source. It is ENE's recommendation for the site to be surveyed by a certified biologist prior to any construction activities. If ground-disturbing activities cannot be relocated away from prairie dog colonies, it is recommended that prairie dogs should be relocated to a suitable location. These resources are not protected by any federal regulations, meaning they are not subject to oversight or enforcement at the federal level. Impacts to fish, wildlife, and vegetation due to the proposed Project are considered minor.

3.3.2. Threatened and Endangered Species (ESA Section 7)

Affected Environment

ENE utilized the United States Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) interactive mapper to determine if any Endangered Species Act (ESA) listed species could be within the Project site. The report identified seven species which might be found within the Project site. **Table 1** below summarizes the IPaC results and the potential impact on the species. Each species possesses an effect determination based on USFWS criteria. The determinations are listed below:

No Effect: Project will have no impact on species and/or habitat

May Affect, Not Likely to Adversely Affect (NLAA): suitable habitat may exist, but the Project will not significantly impact species

May Affect, Likely to Adversely Affect: species, critical and/or suitable habitat will be significantly impacted by the Project.

The official IPaC report can be found in **Appendix E**. Reasoning for effect determinations are based on final critical habitat, species profiles included in the IPaC, and ENE's site visit observations.

Table 1 IPAC Results					
Common Name	Species	Presence/ Absence	Effect Determination	Species ESA Status	Reasoning for Effect
<u>Mammals</u>					
New Mexico Meadow Jumping Mouse	<i>Zapus hudsonius luteus</i>	Unknown	No Effect	Endangered	No critical habitat exists on site. No suitable habitat exists (permanent waterbody edges, wetlands).
<u>Birds</u>					
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	Unknown	No Effect	Endangered	Site does not overlap the critical habitat. Possible habitat does not exist onsite (dense vegetation along permanent waterbodies).
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Unknown	No Effect	Threatened	Site does not overlap the critical habitat. No suitable habitat exists (cottonwoods/willows alongside intermittent/perennial streams).
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Unknown	No Effect	Threatened	Site is not designated critical habitat. Potential habitat also not present (old growth mature forests, canyon habitat).
<u>Insects</u>					
Monarch Butterfly	<i>Danaus plexippus</i>	N/A	N/A	Proposed Threatened	The Monarch Butterfly is not federally protected, a formal determination of effect has not been made. The project will not jeopardize the continued existence of the species.
Silverspot	<i>Speyeria nokomis nokomis</i>	Unknown	No Effect	Threatened	Proposed critical habitat does not overlap project site. Habitat does not exist on site (obligate bog violet, moist open meadows).

Suckley's Cuckoo Bumble Bee	<i>Bombus suckleyi</i>	Unknown	N/A	Proposed Endangered	The Suckley's Cuckoo Bumble Bee is not federally protected, a formal determination of effect has not been made. The project will not jeopardize the continued existence of the species.
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Environmental Consequences – No Action

The no action alternative will not impact any listed species or its habitat.

Environmental Consequences – Proposed Action

According to the IPaC report for the above listed mammals, birds, fish, and insects, this Project area does not contain any species critical or suitable habitats. Due to the lack of water resources on the proposed Project area no threatened or endangered species will be affected by the proposed Project. A formal field survey for remaining rare, threatened, and endangered species has not been completed, and definitive information has not been gathered. Impacts to federally listed rare, threatened, and endangered species due to the proposed Project are considered to have no effect. All species listed in the table above are anticipated to be no effect.

3.3.3. Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act

Affected Environment

The USFWS Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) outlines requirements for the protection and prohibitions associated with migratory bird species. The USFWS IPaC Official Species report lists a total of 17 different species under the MBTA, which can be found the official IPaC report. The USFWS IPaC Official Species report also lists two Species under the BGEPA, the bald eagle (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), the official IPaC report can be found in **Appendix E**.

The probability of presence and the breeding season for each of the 17 MBTA species listed can be found in the official IPaC report, the species that is most likely to be present is the Evening Grosbeak which has a breeding season from May 15th to August 10th and has a chance of being present for a large majority of the year.

According to the IPaC report, both bald eagles and golden eagles may be present in the area. The IPaC Official Species List (OSL) indicates that golden eagles are more likely to be present than bald eagles. Although vegetation and potential nesting locations appear limited in the project area, EN recommends a survey of bald and golden eagle nests be conducted by a qualified biologist before construction begins.

The burrowing owl (*Athene cunicularia*) is protected under the MBTA and was specifically noted in the NMDGF project review. In order to determine if burrowing owls are present, the NMDGF recommends a survey to be conducted by a qualified biologist. In the event that burrowing owls

are located within the project site, further consultation with the department will be required, and additional avoidance measures or possible relocation may be required.

Environmental Consequences – No Action

The no action alternative will have no impact on migratory birds within or adjacent to the project site.

Environmental Consequences – Proposed Action

Due to a general lack of tree cover, there are few viable locations for most of the listed species to nest on the project site. Research suggests that eagles may be found near the site.

Therefore, ENE recommends that prior to construction a qualified biologist confirms that there are no bald eagle or golden eagle nesting sites within or near the project site. As outlined above, a burrowing owl survey is also recommended. Overall Impacts to migratory birds, bald and golden eagles due to the proposed Project are considered negligible.

3.4. Historical and Cultural Resources (HPA Section 106)

3.4.1. Affected Environment

Affected Environment

As a federally-funded project, the Proposed Action is subject to compliance with the National Historic Preservation Act of 1966, as amended, and its implementing regulations found in 36 CFR §800, which require federal agencies to consider the effects of their undertakings on historic properties.¹

The New Mexico Cultural Resources Information System (NM CRIS) database was reviewed to identify previously conducted archaeological projects and previously recorded archaeological sites in the project area, as well as within a 1-mile buffered study area surrounding the project area. The National Park Service's (NPS's) database for properties listed on the National Register of Historic Places (NRHP) was also reviewed.

Environmental Consequences – No Action

The no action alternative will have not impact or change cultural, archeological, or historical resources within the Project Area.

Environmental Consequences – Proposed Action

To verify analysis, ENE reached out to the Environmental and Historic Preservation Division (EDHP) of RUS in order to begin consultation with SHPO and THPO. Section 106 for this project was conducted in accordance with 36 CFR § 800.12 and two comments were received during the seven-day notification period. This project facilitates the production and generation of domestic energy resources and expands the integrity and reliability of the Nation's energy infrastructure to more adequately meet the Nation's needs and therefore responds to the National Energy

¹ Historic properties are any prehistoric or historic district, site, building, structure, object, or traditional cultural property included in or eligible for inclusion in the National Register of Historic Places (36 CFR §800.16(l)(1)).

Emergency formally declared by the President of the United States on January 20, 2025, Executive Order 14156, Declaring a National Energy Emergency. In accordance with this Executive Order, this project is an emergency undertaking which was submitted for expedited review consistent with 36 CFR § 800.12(b).

On 8/29/25 RUS notified the Advisory Council on Historic Preservation (ACHP), the New Mexico State Historic Preservation Office (NM SHPO), Apache Tribe of Oklahoma, Comanche Nation, Oklahoma, Jicarilla Apache Nation, New Mexico, Navajo Nation, Arizona, New Mexico & Utah, Pueblo of Picuris, New Mexico, and the Pueblo of Taos, New Mexico. The above listed parties were provided an opportunity to comment within seven days of the notice per 36 CFR § 800.12(b)(2). The NM SHPO submitted comments on 9/3/25, and the ACHP submitted comments on 9/4/25. No other responses were received during the 7-day comment period.

On 9/8/25, ENE received Section 106 approval dependent on submission of an Inadvertent Discovery Clause (**Appendix I**) and immediate pause of construction withing 100 feet in the event of a discovery of historic significance.

3.5. Aesthetics

Affected Environment

As mentioned in the Formally Classified Lands portion of Section 3.1, there are no nationally significant resources within the Project site, nor are there any adjacent that would be directly impacted by the Project. Areas of high scenic value were not observed during research phases of the Project. The Project site is currently not in use for agriculture or farming and does not contain any housing. Vertical elements within and adjacent to the Project site includes a solar array, wooden utility poles for existing overhead electric cables, and the wastewater treatment plant. The Project site is indirectly surrounded by mountainous areas and residential buildings.

The Project will have an 8' or taller fence surrounding the facility to restrict access and create a safe boundary. The use of screens and/or plantings is currently unknown due to the fact that screens and plantings can cause ventilation challenges and plantings can provide flammable materials in close proximity to the site.

Environmental Consequences – No Action

The no action alternative will not impact or change aesthetic views or scenery within or adjacent to the Project site.

Environmental Consequences – Proposed Action

There are no nationally significant resources within the Project site, nor are there any adjacent that would be directly impacted by the Project. Areas of high scenic value were not observed during research phases of the Project. The Project site is surrounded by other facilities that exhibit a fence and other structures of similar height. Impacts associated with the Project won't affect the aesthetics or viewsheds of the surrounding area.

3.6. Air Quality

Affected Environment

The Clean Air Act (CAA) (1970) provides regulatory guidelines and thresholds which establish National Ambient Air Quality Standards (NAAQS) in the U.S. It authorizes the EPA to uphold these standards to protect public health and safety. The EPA NEPAAssist tool provides comprehensive mapping for areas designated as nonattainment areas i.e. those areas that do not meet NAAQS criteria. According to NEPAAssist Mapping the closest area that has been identified as having Hazardous Waste is along the County Road C110 approximately 1.6 miles south of the Project site (**Appendix A**).

Proposed construction during the initial phases of the Project is anticipated to contribute the most air pollution. Specifically, construction will lead to disturbance of dust and particulate matter as well as temporarily increased vehicle emissions. Use of construction vehicles will be limited to periods where emissions and dust will be least influenced by local weather and climate i.e., average temperatures and rainfall. Although construction timelines are yet to be decided, construction of the hydrogen facilities are expected to have the longest lead times due to segmented deliveries as products come off the manufacturer's assembly line, resulting in prolonged use of construction and passenger vehicles. The operation and maintenance phase of the Project will have varying impact on criteria pollutants in the area depending on the selected hydrogen fuel cell technologies.

Additionally, intended hydrogen releases (venting) are expected for routine maintenance that require depressurizing hydrogen carrying components. Unintentional hydrogen releases have the potential to occur as well, including from pressure relief valves in the event of over pressure system or components, and leakage through failed components or materials. Other sources of pollutants during this phase will be associated with passenger vehicle access into the site and potential dust created for access during drier periods, which are expected to have minimum impact. Any technology implemented for this Project that will produce air quality pollutants will comply with state and/or local air permitting requirements.

The existing external components of this Project, the adjacent wastewater treatment plant and solar array will only contribute to air pollution through maintenance vehicles entering and leaving the area along with other combustion powered equipment.

Environmental Consequences – No Action

The no action alternative will have no impact on air quality.

Environmental Consequences – Proposed Action

Proposed construction during the initial phases of the Project is anticipated to produce the greatest quantity of criteria pollutants. In the long-term, air quality is expected to improve as this will be a renewable energy source reducing overall dependence on fossil fuels. Short terms impacts are expected to be negligible to minor depending on the conditions at the time of construction. Any technology implemented for this Project that will produce air quality pollutants will comply with state and/or local air permitting requirements. Long-term impacts are also considered to be negligible to beneficial.

3.7. Human Health and Safety

Affected Environment

The proposed hydrogen production and storage facility presents several human health and safety considerations due to the nature of hydrogen as a flammable and high-pressure gas. Hydrogen's physical properties—such as its wide flammability range, low minimum ignition energy, and low relative vapor density as compared to other common gaseous fuels—require careful planning and engineering controls to mitigate risks. Additionally, hydrogen burns with a nearly invisible flame, which can complicate fire detection and response efforts. The facility's design and operational protocols will incorporate multiple layers of safety to address these hazards and protect both personnel and the surrounding community.

Safety measures will be implemented to prevent unintended releases of hydrogen, the facility will be equipped with hydrogen-compatible leak detection systems. These include fixed and portable

sensors capable of detecting low concentrations of hydrogen in ambient air, as well as optical flame detectors—commonly referred to as “fire eyes”—that can identify hydrogen flames even when they are not visible to the human eye. Routine leak surveys will be conducted using specialized equipment to ensure early identification and remediation of any potential leaks. In the event of a detected leak or abnormal pressure condition, automated emergency shutoff valves will isolate affected systems to prevent escalation. Pressure relief devices will also be installed to safely vent excess pressure and protect storage infrastructure.

Ventilation systems will play a critical role in preventing the accumulation of hydrogen in enclosed or confined spaces. These systems will be designed to maintain continuous airflow and will be supplemented by purge systems that can safely remove hydrogen from piping and equipment during maintenance or shutdown procedures. Confined spaces will be continuously monitored for hydrogen presence, and strict entry protocols—including pre-entry gas testing and ventilation—will be enforced to ensure worker safety.

Emergency response planning will be an important part of the facility's safety strategy. Personnel will receive regular training on hydrogen hazards, leak detection, and emergency procedures, and the facility will coordinate with local fire departments and emergency responders to conduct joint drills and ensure readiness. Alarms will be utilized to alert staff in the event of a gas leak or fire, and clearly marked evacuation routes and assembly points will be maintained.

Advanced safety technologies will be integrated into the facility's operations to enhance monitoring and control. Real-time monitoring systems, such as SCADA, will track key parameters including pressure, temperature, and gas concentrations, to identify potential failures before they occur. All equipment in hydrogen-handling areas will be explosion-proof and compliant with relevant standards such as NFPA 2. Redundant safety systems, including dual-layer containment and fail-safe designs, will be employed for critical components, and backup power systems will ensure that safety controls remain operational during power outages.

Blast mitigation and impact radii will be considered as part of the safe design of this Project. The Project will be designed based upon competitively-selected equipment, equipment specific hazards and necessary mitigations. Designs to reduce impacts to personnel and the public will be prioritized. This Project will use a process hazard analysis (PHA) process to systematically work through possible impacts under normal and abnormal operating conditions. If required safeguards to protect people, public, and property are determined, they will be designed into the system.

Environmental Consequences – No Action

The no action alternative will have no impact human health and safety within or adjacent to the Project site.

Environmental Consequences – Proposed Action

In summary, the facility's approach to human health and safety is comprehensive and proactive, combining engineering controls, advanced detection technologies, emergency preparedness, and rigorous operational protocols to minimize risk and ensure safe handling of hydrogen throughout its lifecycle. Based on the information described above long-term impacts are negligible.

3.8. Socioeconomic

Affected Environment

ENE performed desktop analysis of socioeconomic data by reviewing information from the U.S. Census Bureau for Taos County, NM in the year 2020. Based on the data, ENE found that roughly 51% of the population is Hispanic, 40% of the population is white, and 5% of the population is native, 1% being Asian, and 3% being Hispanic or Latino (2+). The census data shows median household income for Taos County, NM is approximately \$58,908. The per capita income for Taos County, NM is approximately \$40,018. The approximate percentage of high school graduates or higher is 93.4%. The approximate percentage of bachelor's degree or higher is 55%.

Environmental Consequences – No Action

The no action alternative will have no impact on socioeconomics in the area.

Environmental Consequences – Proposed Action

The Project is not expected to have any negative social or economic environmental impacts to the surrounding communities. This Project intends to provide renewable energy while also lowering greenhouse gas emissions with the addition of hydrogen energy. No housing or commercial property exists within the Project area; therefore, no displacement of people or property will be required. Construction of the hydrogen facility is expected to create numerous job opportunities for the population of Taos. Once the hydrogen facility is operational, a more resilient and independent system of energy infrastructure will be established for the area. The construction and maintenance of this hydrogen facility will create many temporary and permanent jobs. Impacts to socioeconomic conditions due to the proposed project are considered negligible or beneficial.

3.9. Noise

Affected Environment

The Project site is located approximately 1.5 miles north of HWY 110. The nearest roadway is along Los Cordovas Rd which is a two-lane road that is primarily subject to local traffic in the neighborhood. The nearest airport is at Albuquerque International Sunport which is more than 100 miles south from the Project site. The locations for these highways and single airport do not affect the noise pollution for the Project site. In general, the noise levels for busy highways ranges from 70dB to 100dB.

The noise level during the construction phase of the hydrogen facility is expected to remain around 80 dB due to the use of heavy machinery and excavation of existing material. Construction is proposed to be completed within typical working hours and will not require the use of imported lighting or generator use after hours. Once the site is operational, the loudest equipment is anticipated to be the hydrogen compressors estimated to produce noise at 85 dBA from a distance of 1 meter. The Project will be designed to account for any state, county, and/or local sound ordinances and implement sound attenuation if required for compliance. For example, the hydrogen compressors can be installed and operated inside a housing that will act as a sound dampener to the outside environment.

Environmental Consequences – No Action

The no action alternative will have no impact on ambient noise levels within or adjacent to the Project site.

Environmental Consequences – Proposed Action

During the construction phase of the Project the noise level for this hydrogen facility is expected to be around 80dB due to the heavy construction machinery and vehicles moving material around. The construction will occur during typical work hours and will quite down towards the end of the day.

Once the hydrogen facility is operational, the loudest equipment is anticipated to be the hydrogen compressors which are estimated to produce noise at 85 dBA from a distance of 1 meter. However, the Project will be designed to account for any state, county, and/or local sound ordinances and implement sound attenuation if required for compliance. Based on the information described above both short and long term noise impacts at the Project site are anticipated to be negligible.

3.10. Transportation

Affected Environment

The proposed Project site is located approximately 1.5 miles north of HWY 110. Traffic in this area is predominantly vehicular. The nearest roadway is along Los Cordovas Rd which is a two-lane road that is primarily subject to local traffic in the neighborhood. The nearest airport is at Taos Regional Airport SKX which is more than 10 miles north from the Project site and does not affect the Project. No proximity concerns exist as a result.

Environmental Consequences – No Action

The no action alternative will have no impact on transportation routes or traffic within or adjacent to the Project site.

Environmental Consequences – Proposed Action

The proposed action alternative is anticipated to have a negligible impact to local roadways, access to residences and businesses, and traffic patterns.

4.0 Summary of Mitigation

KCEC intends to mitigate all proposed impacts to the maximum extent practicable. During the construction phase, perimeter and interior sediment controls will be installed before site grading or earth moving can occur. These controls are meant to prevent stormwater runoff leaving the site and filter any materials that may enter the nearby roadside areas near the Project site. The facilities will be vegetatively maintained throughout the life of the Project to decrease invasive species and promote a stable site. The anticipated lifecycle of the core hydrogen equipment is over 20 years. Decommissioning of the Project can be reevaluated after the Project's life cycle. Less consistent routine maintenance will include software updates, staff training, and emergency response plan updates.

5.0 Coordination, Consultation, and Correspondence

The following agencies or groups were consulted to provide documentation or confirmation of data for the Project:

- Navajo Nation, Arizona, New Mexico, & Utah, THPO President
- Navajo Nation, Arizona, New Mexico, & Utah, THPO Governor
- Pueblo of Taos, New Mexico, Governor
- Office of Archaeology and Historic Preservation (OAHP), SHPO
- RUS Colorado, Archaeologist
- United States Department of Agriculture, Rural Utilities Service
- United States Department of Agriculture, Natural Resources Conservation Service
- United States Fish and Wildlife Service
- New Mexico Department of Transportation
- New Mexico Office of Archaeology and Historic Preservation
- New Mexico Historic Preservation Division
- New Mexico Department of Game and Fish

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7.0 List of Preparers

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