[6450-01-P]
DEPARTMENT OF ENERGY
Request for Information on Artificial Intelligence Infrastructure on DOE Lands

AGENCY: Office of Policy, Department of Energy.

ACTION: Request for information (RFI).

SUMMARY: The United States has long been at the forefront of artificial intelligence (AI) innovation. Maintaining that leadership is a key national and economic security priority. AI infrastructure including data centers is a critical component of the modern economy, enabling AI training and inference, scientific research, and a wide range of other essential services. The U.S. Department of Energy (DOE) is exploring opportunities to leverage its land assets to support the growing demand for AI infrastructure. This aligns with the policy laid out in the executive order signed January 23, 2025, titled "Removing Barriers to American Leadership in Artificial Intelligence," to sustain and enhance America's global AI dominance in order to promote human flourishing, economic competitiveness, and national security.

DATES: Responses to the RFI are requested by May 7, 2025**.**

ADDRESSES: Responses should be submitted electronically to *aiinfrastructure@hq.doe.gov* and include "Data Center RFI Response" in the subject line of the email. Any information that may be business proprietary and exempt by law from public disclosure should be submitted as described in Section VI of this document.

FOR FURTHER INFORMATION CONTACT: Questions may be addressed to Neelesh Nerurkar, Director of Infrastructure Policy in the Office of Policy, through *aiinfrastructure@hq.doe.gov*.

SUPPLEMENTARY INFORMATION:
DOE seeks to enable the construction of AI infrastructure at select DOE sites to begin by the end of 2025, with a target of commencing operation by the end of 2027. This RFI seeks to assess industry interest in developing, operating, and maintaining AI infrastructure on select DOE owned or managed lands, along with information on potential development approaches, technology solutions, operational models, and economic considerations associated with establishing AI infrastructure on DOE sites. In addition, this RFI seeks input from grid operators that serve DOE sites on opportunities and challenges associated with existing energy infrastructure and potential co-location of data centers with new energy generation.

DOE recognizes its relationships with Tribes and States and local governments as well as local communities, universities, businesses, utilities, and governments, contributing to economic development, education, and scientific advancement. As such, this RFI also seeks to gather input from potentially interested entities and individuals.

For the purposes of this RFI, AI infrastructure includes AI data centers, which contain specialized Information Technology (IT) equipment and associated cooling facilities, as well as their energy supply, including sources of generation, such as nuclear energy, and transmission and storage.

The Government anticipates authorizing land use rights and privileges through either a long-term Ground Lease or an Easement. The information gathered through this RFI may be considered in developing a public solicitation of private-sector proposals for AI infrastructure construction, operation, maintenance, and decommissioning on federal land.

This RFI is issued solely for information and planning purposes and does not constitute a solicitation.

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I. Background

The U.S. Department of Energy (DOE) owns or manages significant amounts of land across the United States that may be suitable to support buildout of AI infrastructure. DOE sites offer potential advantages such as access to or the potential to build power infrastructure, secure locations, and opportunities for technological collaboration with DOE research facilities. DOE is considering opportunities to utilize these assets in a manner that enhances the United States' leading position in AI and benefits local economies. For the purposes of this RFI, the term "AI infrastructure" refers collectively to AI data centers, their specialized IT equipment and associated cooling facilities, and their energy supply, including sources of generation, transmission (including substations), and storage.

For decades, DOE and its National Laboratories have been developing cutting-edge AI tools to support science, energy, and security missions. DOE and its National Laboratories are driving progress in AI through their enabling infrastructure: world-leading supercomputers, cutting-edge

algorithms and software stacks through programs like the Exascale Computing Program, high-quality scientific datasets, and a scientific and technical workforce unmatched in the world to address the most critical energy, security, and science challenges of our time. DOE's capabilities and leadership in AI make it a natural partner for strategic public-private partnerships related to AI infrastructure.

Additionally, DOE is a leader in developing advanced energy technologies. DOE and National Laboratory sites can provide an opportunity to accelerate deployment of key technologies like nuclear, geothermal, and energy storage, through existing site characterization work, existing energy infrastructure like microgrids and transmission availability, ability to support permitting, and supportive communities. For example, DOE has already performed extensive site characterization and permitting activities for new nuclear reactors at Idaho National Laboratory for the National Reactor Innovation Center.

II. Purpose

The primary purpose of this RFI is to solicit information from entities with experience in the development, operation, and management of AI infrastructure. DOE is also seeking information from grid operators, technology developers, the public, and potentially affected entities on areas that should be considered or further evaluated for potential solicitations.

DOE is seeking input on a range of topics, including:

- Industry interest in any of the locations identified in the Appendices for consideration.
- Potential data center designs, technologies, and operational models that could be deployed.
- Potential power needs, timelines, and approaches to co-locating energy sources with data centers or sources for surplus interconnection capacity.
- Financial and contractual considerations related to leasing DOE owned or managed land for data center development.
- Potential benefits and collaboration opportunities associated with siting AI infrastructure on DOE sites.
- Economic, realty, and environmental information.
- Potential challenges associated with siting AI infrastructure on DOE sites, and any additional information required for potential solicitations.

DOE is interested in hearing Tribal government and community perspectives on potential collaboration with industry partners towards advancement of AI infrastructure goals. DOE has not made any final agency decisions at this time and will communicate with Tribes and stakeholders on potential proposed land uses, as appropriate.

III. Sites Under Consideration

DOE has identified locations at 16 DOE owned or managed sites that could be amenable to hosting AI infrastructure. Publicly available information about each site, including location, available acreage, and other characteristics is provided in Appendices to this RFI. The potential DOE sites for AI infrastructure are listed below, in no particular order.

1. Idaho National Laboratory
2. Paducah Gaseous Diffusion Plant
3. Portsmouth Gaseous Diffusion Plant
4. Argonne National Laboratory

5. Brookhaven National Laboratory
6. Fermi National Accelerator Laboratory
7. National Energy Technology Laboratory
8. National Renewable Energy Laboratory
9. Oak Ridge National Laboratory
10. Pacific Northwest National Laboratory
11. Princeton Plasma Physics Laboratory
12. Los Alamos National Laboratory
13. Sandia National Laboratories
14. Savannah River Site
15. Pantex Plant
16. Kansas City National Security Campus

Based in part on consideration of responses to this RFI, DOE will prioritize areas for potential future solicitations, gather additional site information to inform proposal development, identify potential use conflicts and mitigation measures, and develop terms and conditions to operate on DOE owned or managed lands. In potential future solicitations, DOE would aim to provide additional information such as acreage, access to water, environmental sensitivities, geotechnical and flood information, hazards, land use plans, power access and energy infrastructure, security, thermal management infrastructure, existing compute infrastructure, site access restrictions, and further information as determined from this RFI.

The listed sites in this RFI are not comprehensive of sites under consideration by DOE. DOE has not made any preliminary or final decisions as to changes to land use or designation relating to those sites or others. This RFI is solely a request for voluntary information to inform future potential actions.

IV. DOE Realty Agreement Terms and Considerations

DOE's statutory authority for leases and easements of DOE real property is outlined in Section 161g of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2201g) and 40 U.S.C. 1304(b). DOE may enter into a realty agreement to lease land to an entity or enter into an agreement for an easement over the land, depending on the desired length and terms. Realty agreement terms could include requirements that non-federal parties agree to bear all responsibility for costs and liabilities related to construction and operation of the AI data centers as well as other infrastructure upgrades necessary to support those data centers, including costs to transmission providers or transmission organizations necessary to support the data centers. It is possible that in-kind contributions may be counted as part of the costs of any non-federal party entering into a realty agreement. DOE anticipates that the AI infrastructure developer would be responsible for ensuring compliance with state and local requirements governing electricity, including interconnection requirements.

A recent DOE initiative to locate energy generation on DOE lands includes examples of the range of terms that could be included in realty agreements for data centers. See *https://www.energy.gov/management/osp/cleanup-clean-energy-expanding-clean-energy-generation-doe-lands*.

V. RFI Categories and Questions

To assist DOE in evaluating the potential for AI infrastructure on DOE owned or managed lands, interested parties are requested to provide the following information, as available, in response to

this RFI. Respondents can choose to answer as many or as few questions as they feel appropriate. Responses addressing any aspect of a potential future program that seeks to lease DOE owned or managed lands for AI infrastructure beyond the specific categories and questions listed here are also welcome.

Category 1: Interest in Solicitation: Identify and comment on any specific sites or locations listed in Section III of this document, including interest in a potential future solicitation. See Section VI of this document, "Confidential Business Information," regarding protection and release of information and how to submit proprietary information. See the Appendices for more detailed information on site characteristics.

1. Are any sites identified in Section III of more interest than others for possible development?
2. What characteristics of a site make it more or less favorable for development?
3. What regional characteristics (*e.g.*, workforce availability, supply chains, existing transmission capacity, related industries) would impact site favorability?
4. Are there other DOE sites not listed that would be of more interest to possible development?

Category 2: Site Information and Considerations for Data Center Design and Technology: These questions cover desired data center characteristics and associated site characterization information that DOE could provide to AI infrastructure developers to develop a realty agreement proposal.

1. What purpose would the data center serve? Would research take place at the data center?
2. What is the minimum area footprint needed for viable development?
3. What site water and sewer availability requirements are needed? Does this vary based on cooling technology system?
4. What information about natural hazards or infrastructure within close proximity is needed for site consideration?
5. What information about the topography and geology of the sites would be needed to determine site suitability?
6. What kinds of zoning (ex: setbacks or height restrictions), land use planning objectives, or permitting jurisdictions are favorable for site consideration?
7. What are some technologies that would enable data centers to be sited in locations with hot humid weather where little water is available?
8. What are the prospects for using advanced data center technologies (*e.g.*, innovative cooling, high efficiency power electronics, and innovative conductors and ultra-energy efficient compute technologies that require cryogenics)? Is there additional information on each site DOE could provide that would inform use of these technologies?
9. What advanced or novel construction technologies or methods can be employed to accelerate development of a federal AI data center while abiding by all necessary standards, codes, and regulations?
10. What types of industrial ecology principles can be employed to integrate data centers with nearby industries or facilities, such as but not limited to integration of data center waste heat into district heating networks?
11. What is the expected upgrade frequency for key components of the data center, including high performance chips?

Category 3: On-Site Energy Development: DOE anticipates that some sites may be suitable for co-located development of data centers and innovative energy technologies and approaches such as nuclear reactors, enhanced geothermal systems, fuel cells, carbon capture, energy storage systems, and portfolios of on-site technologies.

1. What type of co-located energy technologies are of highest interest in being developed with AI data centers? What type of site information would need to be provided to inform use of a given energy technology (*e.g.*, subsurface data, solar resource potential)?
2. What information would you need about DOE's progress to date on nuclear siting (*e.g.*, for the National Reactor Innovation Center) to determine necessary further steps?
3. What information regarding topography, soil, seismicity, water availability, adjacent facilities, transportation infrastructure, security, potential exclusion zones, and other topics would you need to assess site suitability for nuclear energy?
4. What information would be needed in consideration of geothermal power generation development (enhanced geothermal systems or conventional hydrothermal resources) to determine necessary further steps?
5. What information would you need to determine the suitability of various energy storage systems (*e.g.*, subsurface thermal energy storage, flow battery, metal anode battery) as a means for supporting data center cooling or other operations?
6. What information would be needed in consideration of fossil-based generation systems (e.g. carbon capture and storage (CCS), CCS through a "capture-ready" design, duty cycle, cooling needs, and re-use of waste heat in the capture system)?
7. What other site-specific information is required and why?

Category 4: Off-Site Energy and Transmission Capacity: DOE anticipates providing information about existing capacity and interconnection infrastructure available to the site as available and information about possible expansion of capacity that can serve the site.

1. What is the minimum set of information necessary from grid operators to develop a proposal?
2. What substation performance and likely equipment and capacity would be ideal?
3. Assuming additional capacity could be procured or built in stages, what are desired timelines for electricity capacity availability?
4. Would flexible data center operations be possible if it would enable faster capacity interconnection?
5. What additional information could DOE collect from grid operators to inform potential AI infrastructure development at DOE sites?
6. What information, coordination, or other support could DOE or site owners provide to advance the use of innovative grid technologies (*e.g.,* advanced conductors, grid enhancing technologies, advanced power electronics) to accelerate electric capacity serving DOE sites?

Category 5: Financial and Contractual Considerations: Preferred realty agreement terms and suggestions to improve potential solicitations.

1. What realty agreement time frames would be preferred?
2. What types of large load utility tariffs or tariff design elements would make developing a data center in a certain service territory more or less preferable?

Category 6: Benefits and Collaboration Opportunities: Potential benefits and collaboration opportunities associated with siting AI infrastructure on DOE sites (*e.g.*, collaboration including

potential for new technology testbeds with National Laboratories, partnerships with local universities, research and development opportunities).

1. What kinds of DOE data would be beneficial to have access to for training new AI models?
2. Are there any scientific domains that require benchmarking and support from DOE scientists?
3. Would sharing computational resources or providing compute credits to researchers from DOE or local universities be possible?
4. Are there opportunities to leverage National Laboratory capabilities such as digital twin and full-stack co-design (*i.e.*, integrated hardware-software design) to enable data center infrastructure on DOE sites that minimizes operational cost and maximizes compute efficiency?
5. What opportunities are there for collaborating with the nearby communities on ultra energy-efficient, low-noise advanced technologies that minimize adverse impacts and maximize local job creation?
6. What types of opportunities exist to improve modularity and upgradability in servers and server racks, such as seamlessly upgrading IT equipment, cooling technologies, and battery systems?
7. What facilities or capabilities should exist for ongoing research, development, and demonstration of efficient data center technologies at a federal AI data center to improve operations and reduce energy and resource demand?
8. Would industry be open to partnering with National Laboratory personnel to use existing grid testbed infrastructure for research (*e.g*. operational impacts, security, interconnection equipment, load flexibility, protection schemes and ride-through behavior, etc.)?

Category 7: Economic Opportunities and Considerations: Potential opportunities for local economic activity, workforce development, capital investments into infrastructure, tax revenues, and other economic considerations.

1. What workforce requirements would inform the feasibility of development at a particular site?
2. Are there specific local tax structures that impact site selection?
3. Which components of data center infrastructure (*e.g.*, advanced chips and other components of AI servers, advanced busbar, substation equipment, on-site energy generation/storage equipment, etc.) for these sites can be manufactured domestically now or for regular future server upgrades?
4. What other economic impacts are projected barriers to developing a data center or new energy infrastructure on these sites?
5. Are there local or state energy efficiency standards or policies that are required to be met in order to receive economic or other incentives?
6. What local opportunities exist to develop a local tech support service industry sector to maintain and continuously upgrade servers and AI infrastructure and what role might National Laboratory scientists play in standing up such a sector?

Category 8: Relevant and Available Environmental Documentation: DOE anticipates background regulatory work such as the production of engineering studies, feasibility studies, or designs will be needed to support regulatory approvals. Environmental factors should be identified and considered for potential siting, construction, operations, and development of AI

infrastructure at these sites. This can also include strategies for minimizing the adverse environmental impact of data center development and operations on federal land.

1. What environmental baseline data should inform the site selection process?
2. What background information on land use constraints and environmental permits could accelerate the project development timeline?
3. What publicly available data (ex: public comments) could the government analyze, with respect to protection of Tribal cultural resources, to facilitate preparing licenses, permits, or other regulatory authorizations for data center development?
4. What types of potentially adverse impacts to the environment and communities should be considered?

Category 9: Challenges and Any Additional Information Required for Potential Solicitations: Potential concerns associated with siting AI infrastructure on DOE sites (*e.g.*, site security, accessibility). Additional information that would be required from DOE for a respondent to comprehensively respond to a potential future solicitation.

1. What potential challenges, including but not limited to timeline, physical security, and cybersecurity, could be associated with siting AI infrastructure on DOE sites?
2. What concerns exist with supply chain limitations, such as long lead times on certain power and onsite energy equipment, and what alternatives should be considered?
3. What additional information would be required from DOE for a respondent to comprehensively respond to a potential future solicitation?

Category 10: Engagement Strategy with Local Communities and Other Stakeholders, as well as Tribes: DOE anticipates establishing AI infrastructure in a manner that supports the relationships with local government authorities, Tribal governments, and the surrounding communities.

1. What information about relevant Tribal governments, surrounding communities, and local and state governments' past or current engagement with data center development could inform project proposals?
2. Are there existing consortia, partnerships, or entities that could improve data center, nuclear energy, or other energy infrastructure siting and permitting in the locations identified in Section III of this document?
3. What are advanced technologies (*e.g.*, liquid cooling, energy efficient compute) that could mitigate local concerns about energy prices, noise pollution, water use, and land footprint?
4. What treaty rights or reserved rights could intersect with data center development at DOE sites?
5. What cultural resources (*e.g.*, archaeological sites, burial grounds, traditional use areas) should be considered during the development of AI centers?

Response Guidelines

DOE invites all interested parties to submit responses to this RFI by May 7, 2025. Responses must be provided as a Microsoft Word (*.docx) or as an Adobe Acrobat (*.pdf) attachment to an email to *aiinfrastructure@hq.doe.gov* with the subject line "Data Center RFI Response." It is recommended that attachments with file sizes exceeding 25 MB be compressed (*i.e.*, zipped) to ensure message delivery. Any questions regarding the RFI may be included in the RFI response

or sent directly to *aiinfrastructure@hq.doe.gov.* DOE may address questions after the RFI response due date with a public FAQ document.

In your response, please use the associated category and question number. Respondents may answer as many or as few questions as they wish.

DOE will not respond to individual submissions or publish publicly a compendium of responses. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company / institution name
- Company / institution contact
- Contact's address, phone number, and e-mail address

VI. Confidential Business Information

DOE will not release information that identifies any particular interest in a location with any particular party, so as not to compromise the competitive position of any participants. Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose. If your response contains confidential, proprietary, or privileged information, you must include a cover sheet marked as follows identifying the specific pages containing confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data

> Pages [list applicable pages] of this response may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for the purposes described in this RFI. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.

In addition, (1) the header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure" and (2) every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with [[double brackets]] or highlighting.

Please be aware that DOE may make available for public inspection all other comments, in their entirety, submitted by organizations and businesses (except as provided above for proprietary information) or by individuals identifying themselves as representatives of organizations or businesses.

VII. Disclaimer

This RFI is issued solely for information and planning purposes and does not constitute a solicitation. Responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. DOE may choose to make available all, some, or none of the sites listed in Section III of this document in potential future solicitations. DOE is not seeking proposals through this RFI and will not accept unsolicited proposals. Respondents are solely responsible for all expenses associated with responding to this RFI. Not responding to this RFI does not preclude participation in any future procurement, if conducted. No proprietary information should be included in any submittal except via the process outlined in Section VI of this document.

In accordance with the implementing regulations of the Paperwork Reduction Act of 1995 (PRA), specifically 5 CFR 1320.3(h)(4), and OMB guidance, this general solicitation is exempt from the PRA. Facts or opinions submitted in response to general solicitations of comments from the public, published in the *Federal Register* or other publications, regardless of the form or format thereof, provided that no person is required to supply specific information pertaining to the commenter, other than that necessary for self-identification, as a condition of the agency's full consideration, are not generally considered information collections and therefore not subject to the PRA.

VIII. Signing Authority

This document of the Department of Energy was signed on March 21, 2025, by Neelesh Nerurkar, Director of Infrastructure Policy, Office of Policy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on March 21, 2025.

Neelesh Nerurkar,
Director of Infrastructure Policy,
Office of Policy
U.S. Department of Energy.

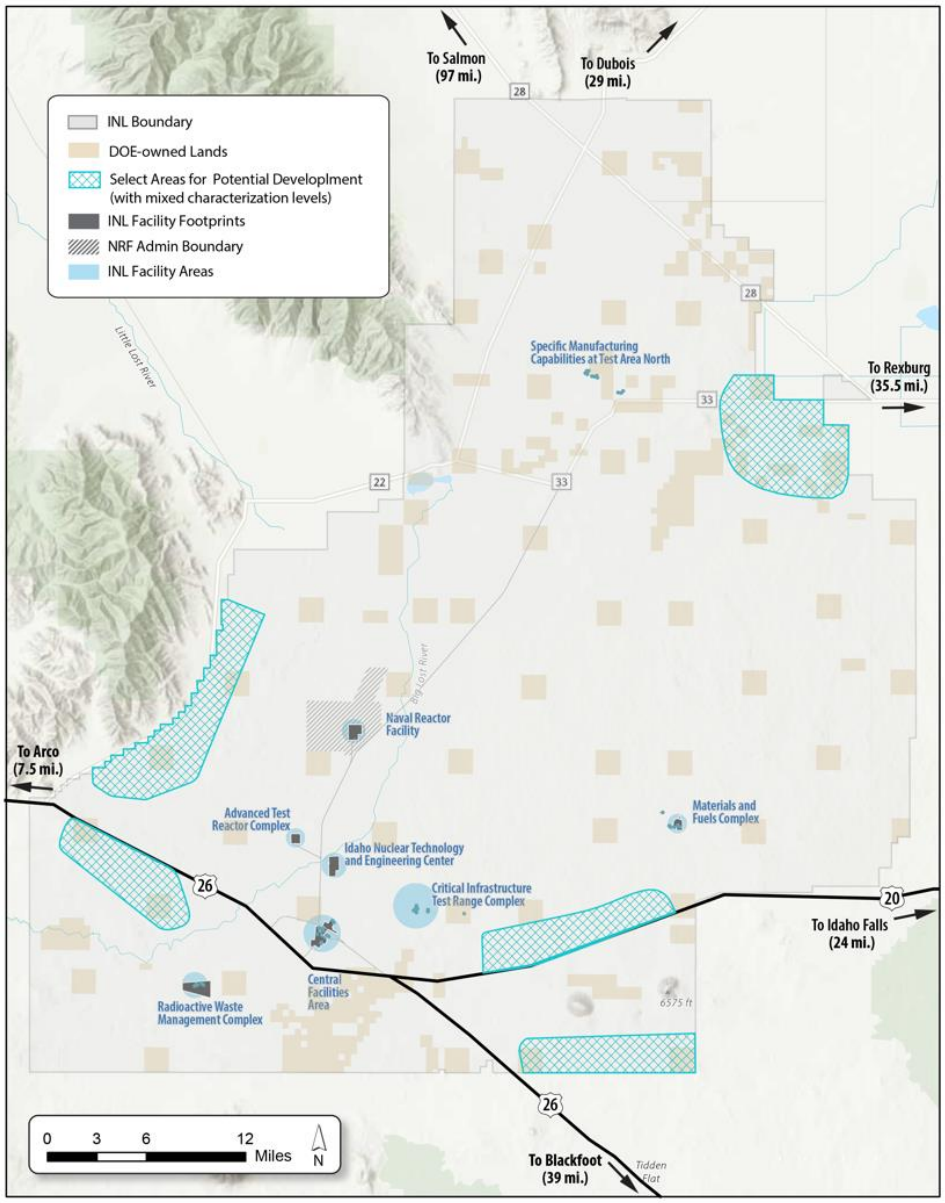
IX. Appendices

Publicly available information about each site, including location, available acreage, and other characteristics, is provided below. Sites are listed in no particular order. For higher resolution maps, please visit *https://www.energy.gov/policy/ai-infrastructure-rfi*.

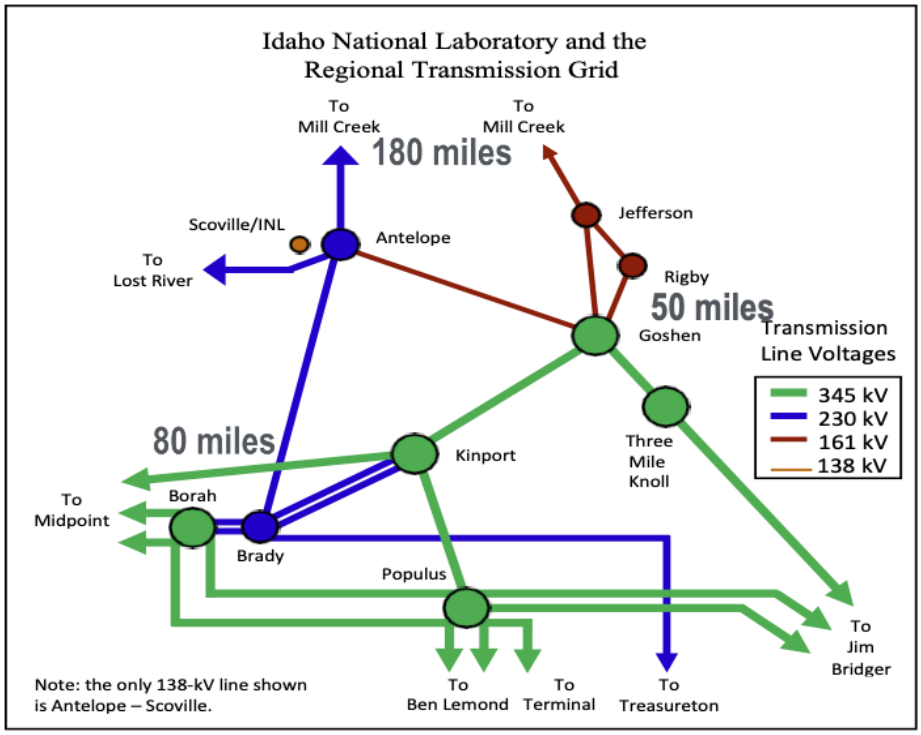
Appendix 1. Idaho National Laboratory

Summary: As the birthplace of nuclear energy and our nation's nuclear energy research laboratory, Idaho National Laboratory (INL) is well positioned to support efforts to attain AI dominance. INL has a legacy of building and testing advanced technologies, including 52 nuclear reactors with four currently in operation, and is also a leader in integrated energy systems and national and homeland security. The 890-square mile site, located in a region that is highly supportive of nuclear energy and INL's other demonstrations, offers ample opportunity for development and scaling to meet growing needs. Idaho regulatory and tax structures also are favorable towards ambitious projects that seek to advance U.S. global leadership.

Site Details: Within the 890-square mile site, the U.S. Department of Energy (DOE) owns approximately 62,000 acres of land, as delineated on the map below. Remaining areas are public lands withdrawn to support Laboratory activities. The map below is a representation of select areas that have mixed levels of known characterization across the INL Site. Through comprehensive site and land use planning efforts, final areas will be determined based on identified need. Representing larger parcels of available lands allows for flexibility within those areas based on project scope and changing requirements. Federal lands adjacent to INL, which are not addressed in detail herein, also could be explored for projects and/or project expansion. DOE Idaho Operations Office also maintains a close relationship with the Bureau of Land Management (BLM) and other Federal and state agencies.



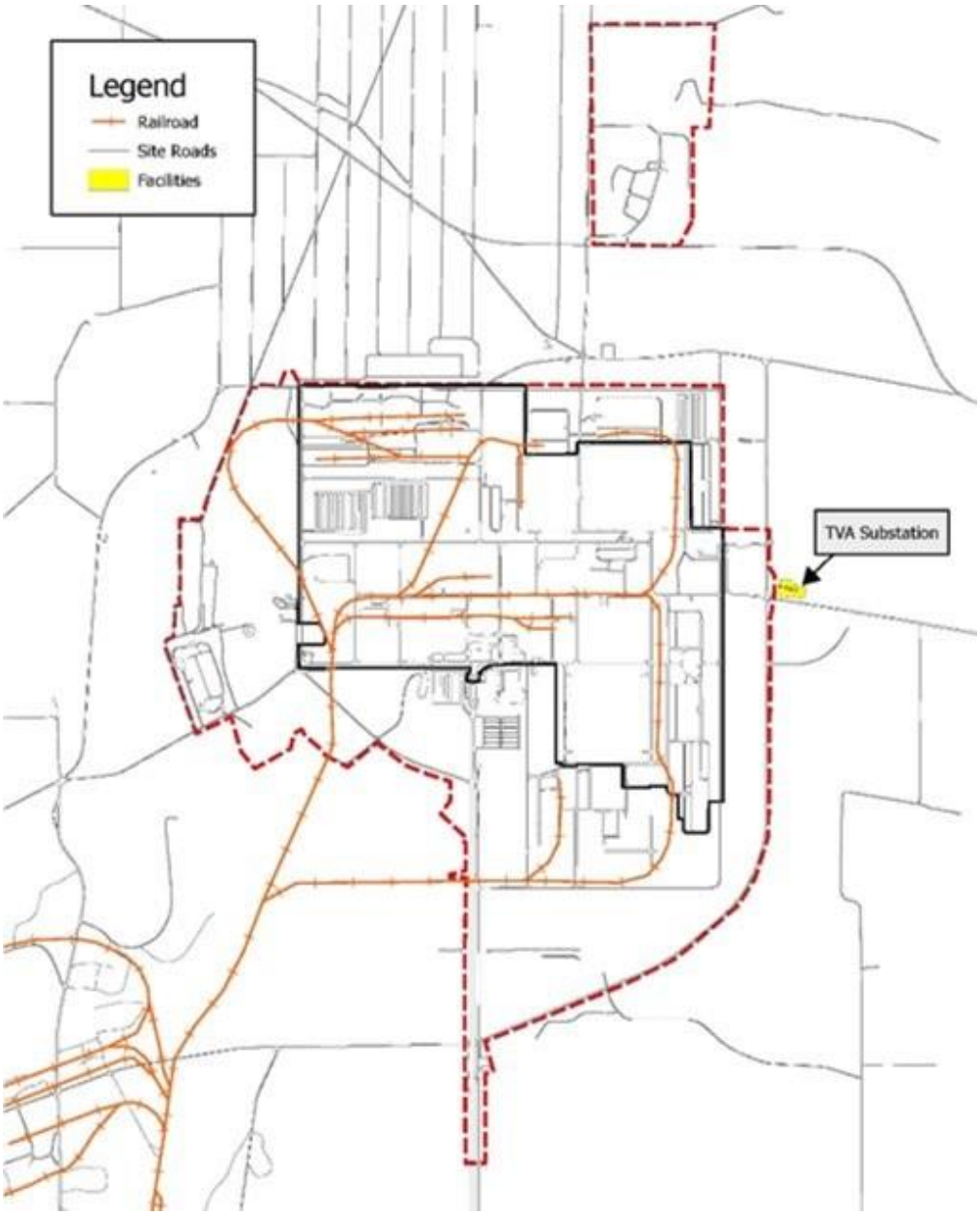
The Gateway West project, which parallels the southern transmission lines (bottommost lines on the map below), is currently in local state permitting phase. The projected in-service date is October 2028.


Idaho National Laboratory and the
Regional Transmission Grid
To
Mill Creek
To
Mill Creek
180 miles
Jefferson
Scoville/INL
Antelope
To
Lost River
Rigby
50 miles
Goshen
Transmission
Line Voltages
345 kV
230 kV
161 kV
138 kV
80 miles
Kinport
Three
Mile
Knoll
To
Midpoint
Borah
Brady
Populus
To
Jim
Bridger
Note: the only 138-kV line shown
is Antelope – Scoville.
To
Ben Lemond
To
Terminal
To
Treasureton

Appendix 2. Paducah Gaseous Diffusion Plant

Summary: The Paducah Gaseous Diffusion Plant (PGDP) was constructed in 1952 to produce enriched uranium, initially for the nation's nuclear weapons program and later for nuclear fuel for commercial power plants. The plant is owned by the Department of Energy (DOE) and managed by the Portsmouth/Paducah Project Office, overseeing environmental cleanup activities at the site including environmental remediation, waste management, depleted uranium conversion, and decontamination and decommissioning. The site is designed for up to 3GW in the Midcontinent Independent System Operator (MISO) power market, and 30 million gal/day of water.

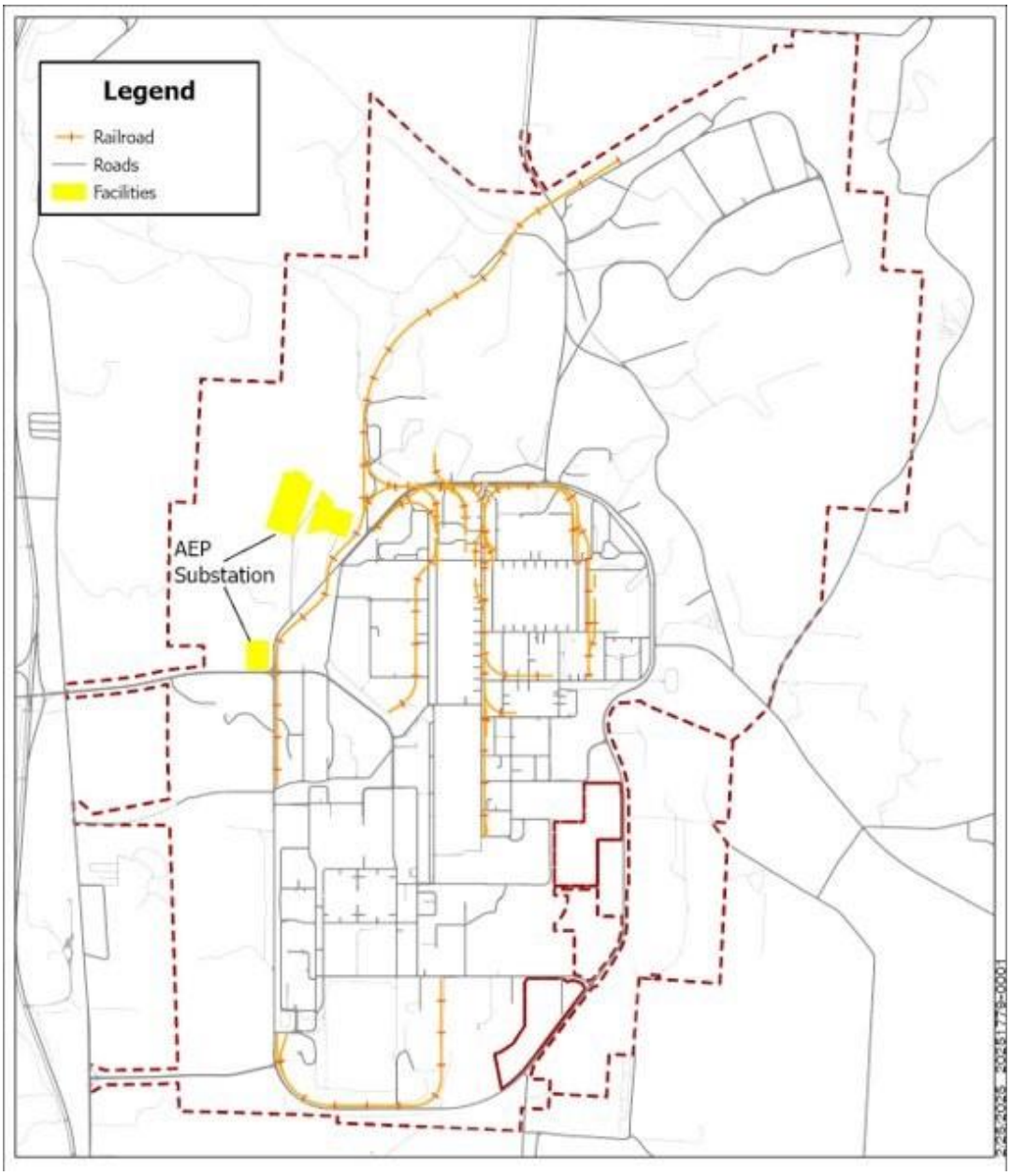
Site Details: The Paducah site is 3,556 acres, with ongoing remediation for potential development of a data center, 19 miles of road, 9 miles of railroad tracks, and adjacency to major railroads, a four-lane highway, interstate 24, and a river. The land is managed by DOE's Portsmouth/Paducah Project Office (PPPO), and development requires input from the Paducah Area Community Reuse Organization (PACRO) and the Paducah Citizens Advisory Board (PCAB).


Legend
Railroad
Site Roads
Facilities
TVA Substation

Appendix 3. Portsmouth Gaseous Diffusion Plant

Summary: The Portsmouth Gaseous Diffusion Plant in Pike County, Ohio operated from 1954 to 2001, constructed to produce enriched uranium to support the nation's nuclear weapons program to provide enriched uranium used by commercial nuclear reactors. The Department of Energy (DOE) began environmental cleanup operations in 1989, and until 2001 leased production facilities to the private sector before suspending uranium enrichment. The site is designed for 2.2GW in the PJM Interconnection power market and 40 million gal/day of water.

Site Details: The Portsmouth site is 3,475 acres, with the decommissioned plant occupying 1,200 acres. The site has 54 miles of road (7-mile perimeter road), 12 miles of rail line connected to Norfolk Southern Heartland Corridor Main Line, adjacency to U.S. Route 23, and adjacency both the Scioto River and the Ohio River. The land is managed by DOE's Portsmouth/Paducah Project Office (PPPO) and redevelopment requires input from the Southern Ohio Diversification Initiative (SODI). Site boundaries are shown below.

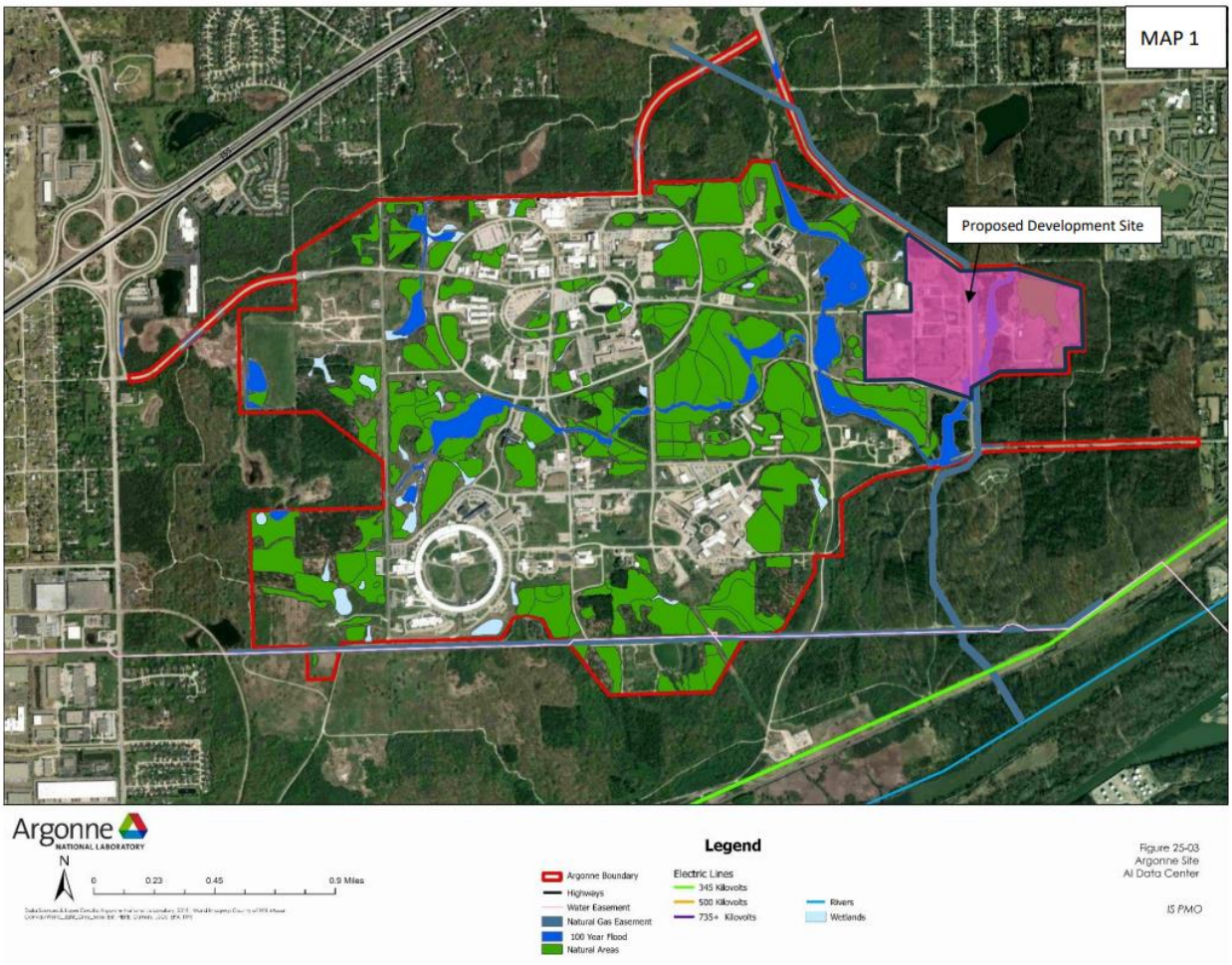

Legend
Railroad
Roads
Facilities
AEP
Substation

Appendix 4. Argonne National Laboratory

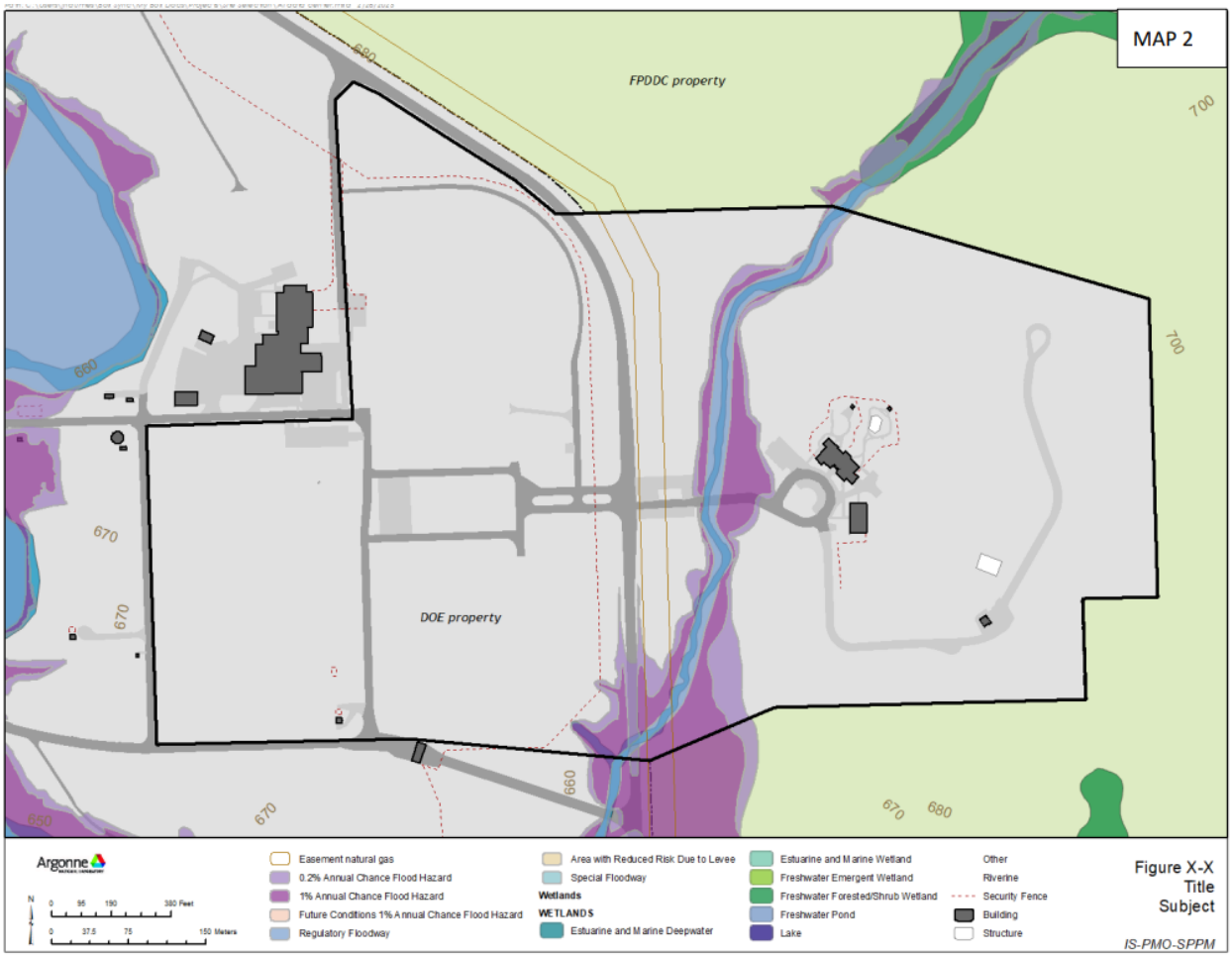
Summary: Argonne National Laboratory (Argonne) could accommodate a 110-acre developable site for a future 1,000 MW AI data park on U.S. Department of Energy (DOE) land with an early target for operations by 2028. Located 23 miles from Chicago, the region has the 6th largest U.S. workforce in AI-related occupations (over 401,000 jobs) spanning tech, product, and commercial roles. Illinois' data center tax exemption and central location has pushed Chicago to #4 largest data center market in the U.S. by capacity. Chicago's relatively low power costs (6.5-6.7 cents/kWh average for large users); and low natural disaster risk are natural advantages for large scale, frontier AI datacenter siting. Illinois is a nuclear energy leader and is home to six operating nuclear plants with ~11.5 GW total generating capacity – more than any other U.S. state.

Site Details: Argonne's total land area is 1,518 acres, which includes the 110-acre potential development site for the data park. The site is a combination of undeveloped and previously developed land. The property is solely owned by DOE. Adjacent area land ownership: Forest Preserve District of DuPage County; unincorporated areas of DuPage County, IL; residential and commercial use.

The proposed data center site sits on the I-55 corridor, a major route southwest of Chicago that carries multiple long-haul fiber optic cables with ultra-low latency connections. Less than one mile is an existing ComEd (local utility) right of way with 345-kV double-circuit high-voltage electrical power, and adjacent to the site are substantial water resources, including the Chicago Sanitary & Ship Canal (CSSC) and the Des Plaines River flow. 60% of Argonne's electricity is comprised of nuclear power, with two large nuclear stations within 50 miles of Argonne.



Refer to Map 2 for existing floodplains and related features of the proposed site.


MAP 2
FPDDC property
DOE property
680
700
660
670
650
Argonne
N
0 95 190 380 Feet
0 37.5 75 150 Meters
Easement natural gas
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Future Conditions 1% Annual Chance Flood Hazard
Regulatory Floodway
Area with Reduced Risk Due to Levee
Special Floodway
Wetlands
WETLANDS
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Security Fence
Building
Structure
Figure X-X
Title
Subject
IS-PMO-SPPM

Appendix 5. Brookhaven National Laboratory

Summary: Brookhaven National Laboratory's (BNL) 5,322-acre site is located in Upton, NY, in Suffolk County, 75 miles east of New York City. The BNL site is a Federal Enclave, fully owned and operated by Department of Energy (DOE). The site is managed by Brookhaven Science Associates (BSA). The proposed 90+ -acre site for the data center is located within the BNL Discovery Park District, an innovative public-private partnership concept. The mission of Discovery Park is to promote
federal and private development to enable mission enhancing technology transfer opportunities.

Site Details: The properties surrounding the BNL site are mostly wooded and undeveloped. Ownership is private and predominately zoned for residential use with the exception of the south border. This area is predominately light industrial use. The total developable area of the preferred location is approximately 90 acres. This area is expandable however, and there are several similar sized undeveloped areas on the BNL site that could also be considered.

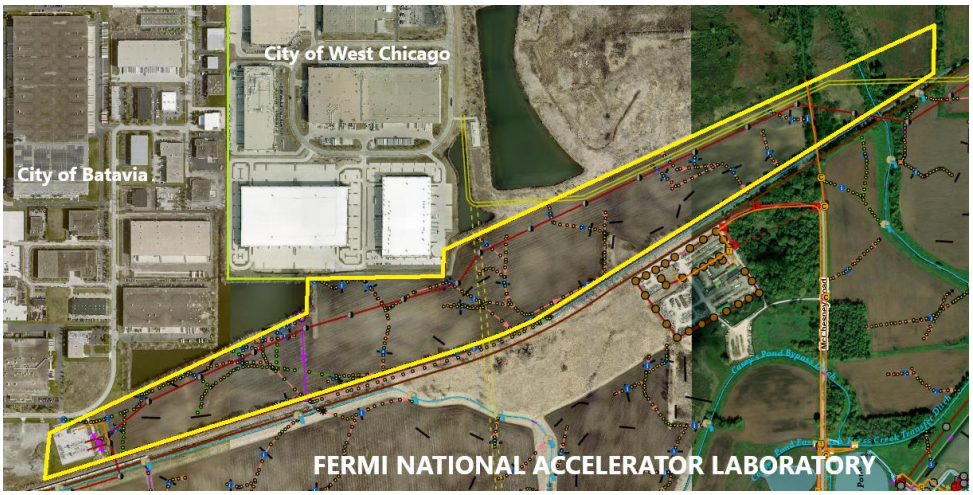
Figure 1: (left) BNL Area Map. Overall BNL Area Map demarking the BNL site boundary, indicating the proposed AI development area in Discovery Park adjacent to the laboratory main entrance, and showing the close proximity of the existing Caithness Long Island Energy Center, which could be the site of a new 750 MW gas turbine plant for the data center. (right) BNL Discovery Park Preliminary Site Plan indicating the 90+ acres available for the AI data center development.

Figure 2: (left) Caithness Long Island Energy Center showing footprint of proposed new 750 MW facility. (right) Artist's impression of the 750 MW Caithness II that could power an AI data center.

Appendix 6. Fermi National Accelerator Laboratory

Summary: Fermi National Accelerator Laboratory (FNAL) develops and supports large-scale data science applications to process and analyze vast amounts of particle physics data, enabling discoveries in physics. It operates one of the largest data centers serving the U.S. Department of Energy (DOE), Office of Science, as a host, and is a lead participant in a second of the five National Quantum Initiative Centers, leading applications of AI/ML in particle and accelerator physics. The lab covers 6,800 acres, with approximately 120 acres of available land, and has excellent access to high-speed networking through ESNet. The site is conveniently located near a commercially available extra high-voltage (EHV) transmission infrastructure. With its experience and expertise in large-scale construction projects, and a readily available high-tech workforce, Fermi National Accelerator Laboratory is well-positioned and equipped to support major initiatives.

Site Details: 127-acre plot on the northern edge of FNAL, approximately 110 acres developable. Federal land; presently an undeveloped agricultural field with overhead conductors and a substation. Service From 345Kv is available from power company Comm-Ed. Adjacent to local development the DuPage Business Center, which has built access roads and conventional facilities to near the parcel boundary. The location also provides potential access to robust data connection infrastructure. DOE has a process where this parcel can be transferred back to the State of Illinois, which may have different development processes.

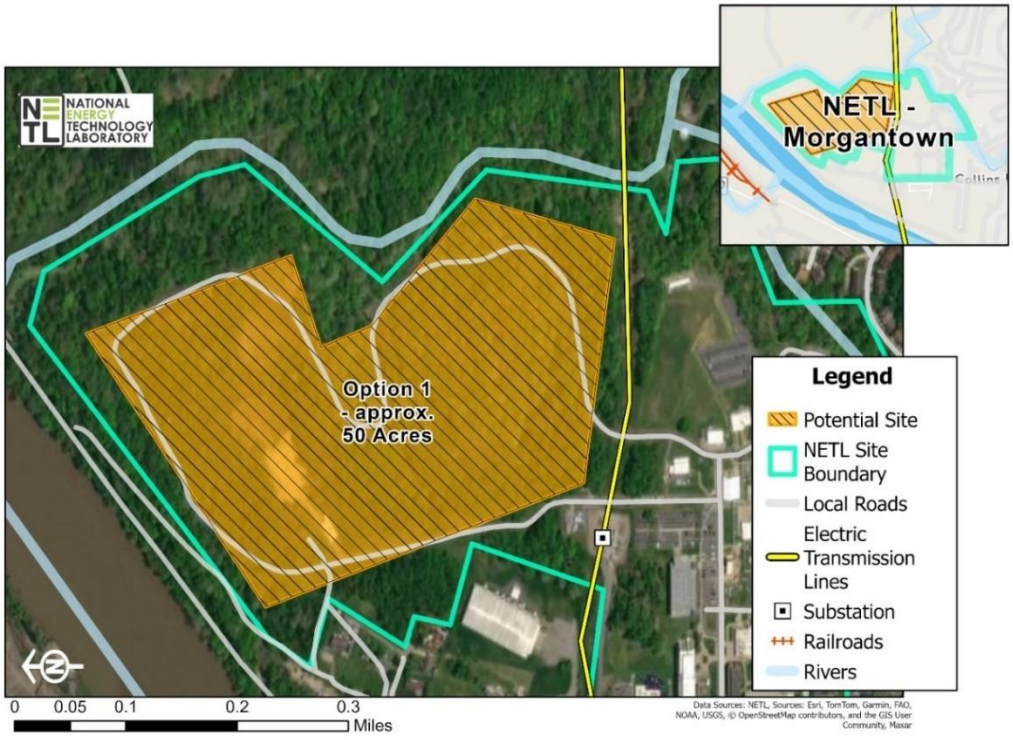

City of West Chicago
City of Batavia
FERMI NATIONAL ACCELERATOR LABORATORY

Appendix 7. National Energy Technology Laboratory

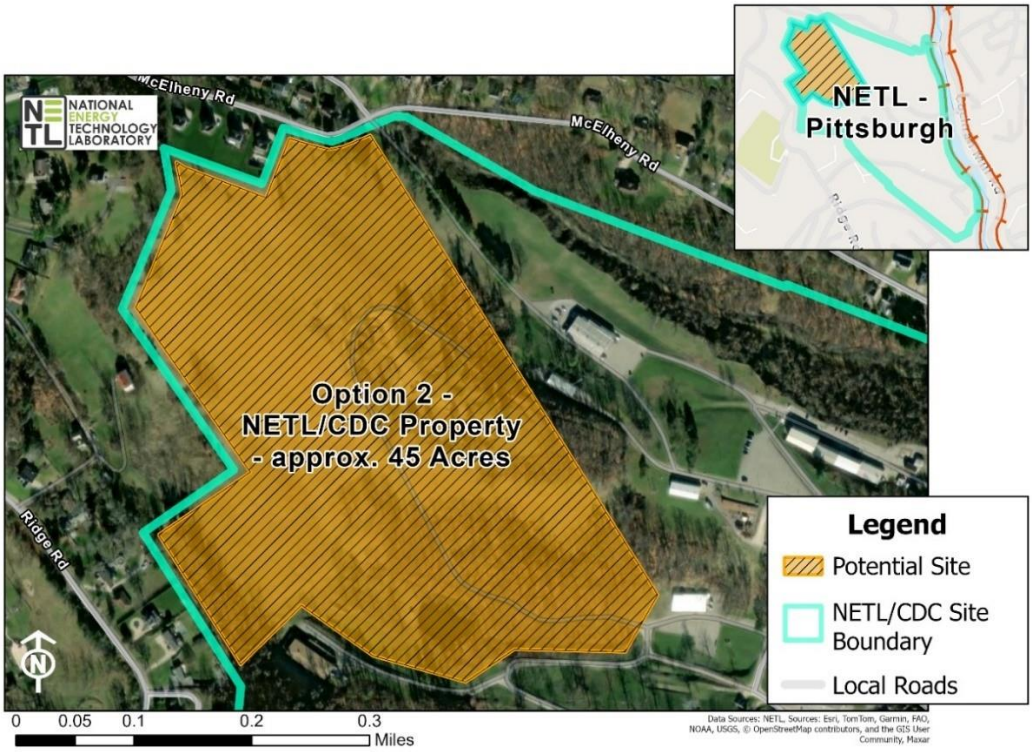
Summary: The National Energy Technology Laboratory (NETL) is a government-owned, government-operated (GOGO) laboratory that drives innovation to ensure energy dominance and deliver solutions for a secure energy future. A national laboratory under the U.S. Department of Energy's Office of Fossil Energy and Carbon Management, NETL has three research and technology campuses located in Albany, Oregon; Morgantown, West Virginia; and Pittsburgh, Pennsylvania, that conduct a broad range of research activities supporting DOE's mission. NETL's Morgantown and Pittsburgh campuses offer excellent potential for hosting frontier AI infrastructure. Both sites are within security perimeters and are federally managed lands. NETL's Morgantown site spans 137 acres; its Pittsburgh site encompasses 57 acres and is co-located with CDC-NIOSH. Both sites are proximal to major universities and academic centers and serve as regional technology and innovation hubs. NETL also conducts applied energy research in AI and that includes advanced computing (*e.g.*, HPC, GPU, etc.) and pioneering computing architectures (*e.g.,* Wafer-Scale Engine [WSE]) through its computational science and engineering directorate.

Site Details:

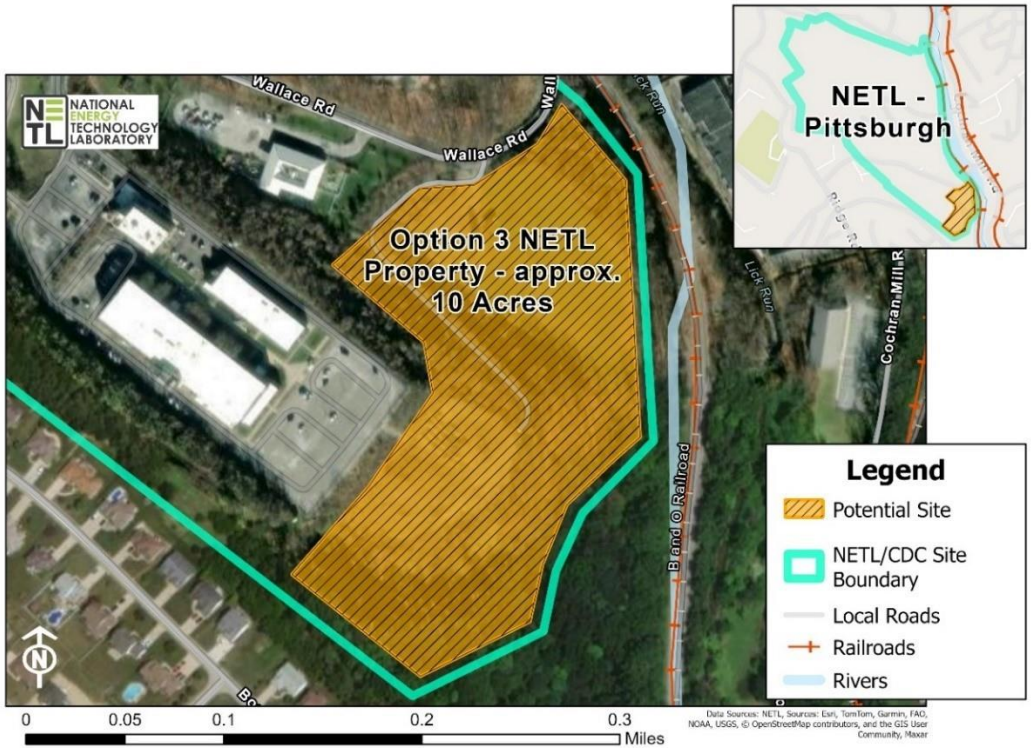
Option 1: NETL Morgantown Campus. ~50.43 acres are shown inside the orange polygon; ~45 acres are inside the perimeter of NETL's secure campus.



Option 2: NETL Pittsburgh Campus. ~45.04 acres are shown inside the hatched orange polygon. This location is inside the perimeter of the NETL, NIOSH, and CDC shared, secure campus. This property may include CDC and/or NIOSH federal lands along with NETL land.

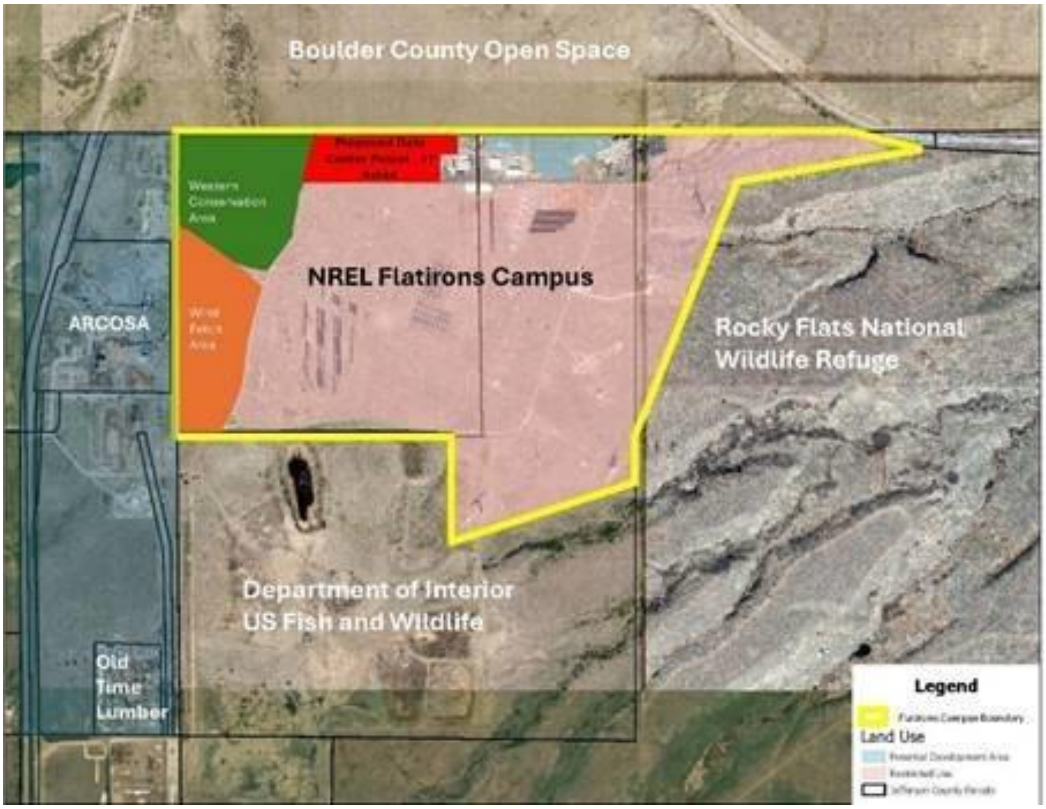


Option 3: NETL Pittsburgh Campus. ~10.64 acres are shown inside the orange polygon. This location is inside the perimeter of the NETL, NIOSH, and CDC shared, secure campus. This property is NETL land.


NETL - Pittsburgh
NATIONAL ENERGY TECHNOLOGY LABORATORY
Wallace Rd
Wallace Rd
Option 3 NETL Property - approx. 10 Acres
Lick Run
Cochran Mill R
Bland O Railroad
Legend
Potential Site
NETL/CDC Site Boundary
Local Roads
Railroads
Rivers
N
0
0.05
0.1
0.2
0.3
Miles
Data Sources: NETL, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Appendix 8. National Renewable Energy Laboratory

Summary: The National Renewable Energy Laboratory (NREL)'s Flatiron Campus has enough land, power, water, and broadband capability to host a 100 MW data center that could be initiated as soon as this year (2025). The site could support an integrated data center energy system test bed, that could be deployed later at scale at other locations. NREL's world-class expertise in scientific computing and partnerships with industry changing data center industry leaders would support the expeditious implementation of a data center at Flatirons. Through this project, NREL could help the U.S. establish global AI dominance and accelerate the transformation of the U.S. data center industry by dramatically reducing construction timelines, enabling the U.S. to rapidly deploy critical AI infrastructure at scale. NREL aims to establish a site where a developer can continue its usual business operations while using the site as a proving ground. The approach would not only allow the developer to focus on its business objectives but also provide national stakeholders with valuable insights into accelerating AI data center construction and power deployment, paving the way for future industry innovations.

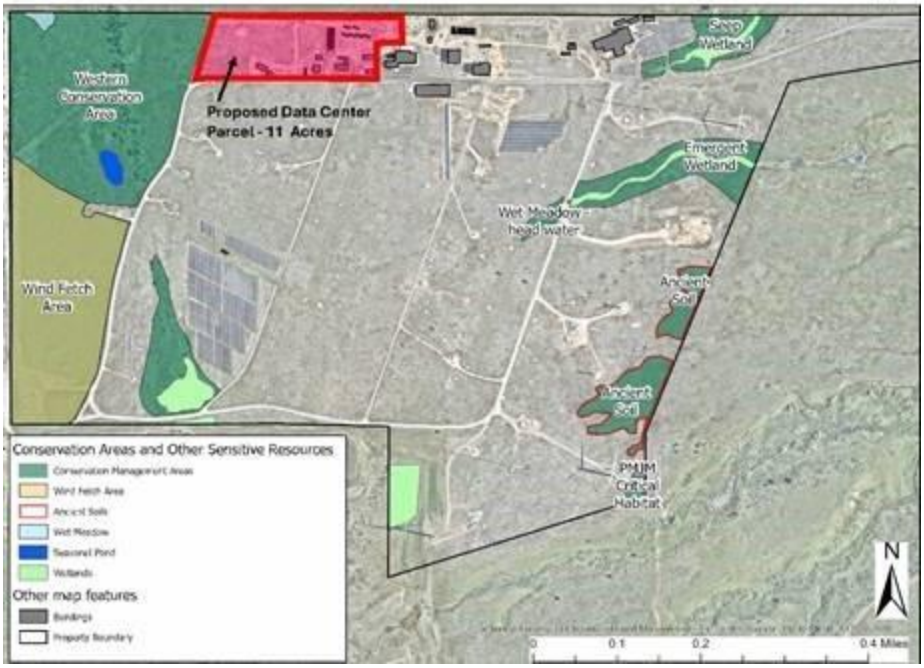


Site Details: NREL's Flatirons Campus is a 305-acre at the base of the Rocky Mountain foothills and approximately 5 miles south of Boulder, Colorado. The campus has been master planned to accommodate several hundred thousand square feet of additional facilities and numerous outdoor test sites. It is located within commuting distance of three cities that are home to major research universities, government institutions, and a strong science, engineering and skills trade workforce. NREL has an 11-acre site located just west of the Flatirons main campus that would be an ideal location for a data center facility.


DATA CENTER
Xcel Energy natural gas main for ~10MW backup generation
1MW battery energy storage
7.2MW Wind turbine power generation capability
3MW Solar power generation capability
50MW Site substation. Can be expanded for future needs. Current usage ~1MW with 10MW intermittent research load
10MW Hydrogen fuel cell power generation capability and underground fuel storage
Additional Xcel transmission line located ~1 mile east in the Rocky Flats Wildlife Refuge adjacent to the site. For dual service feed capabilities
90MW, 115kV overhead transmission line owned by DOE. Can be upsized for future needs
Xcel Energy switch yard with spare ways for new tie in

FC Conservation Areas and Other Sensitive Resources

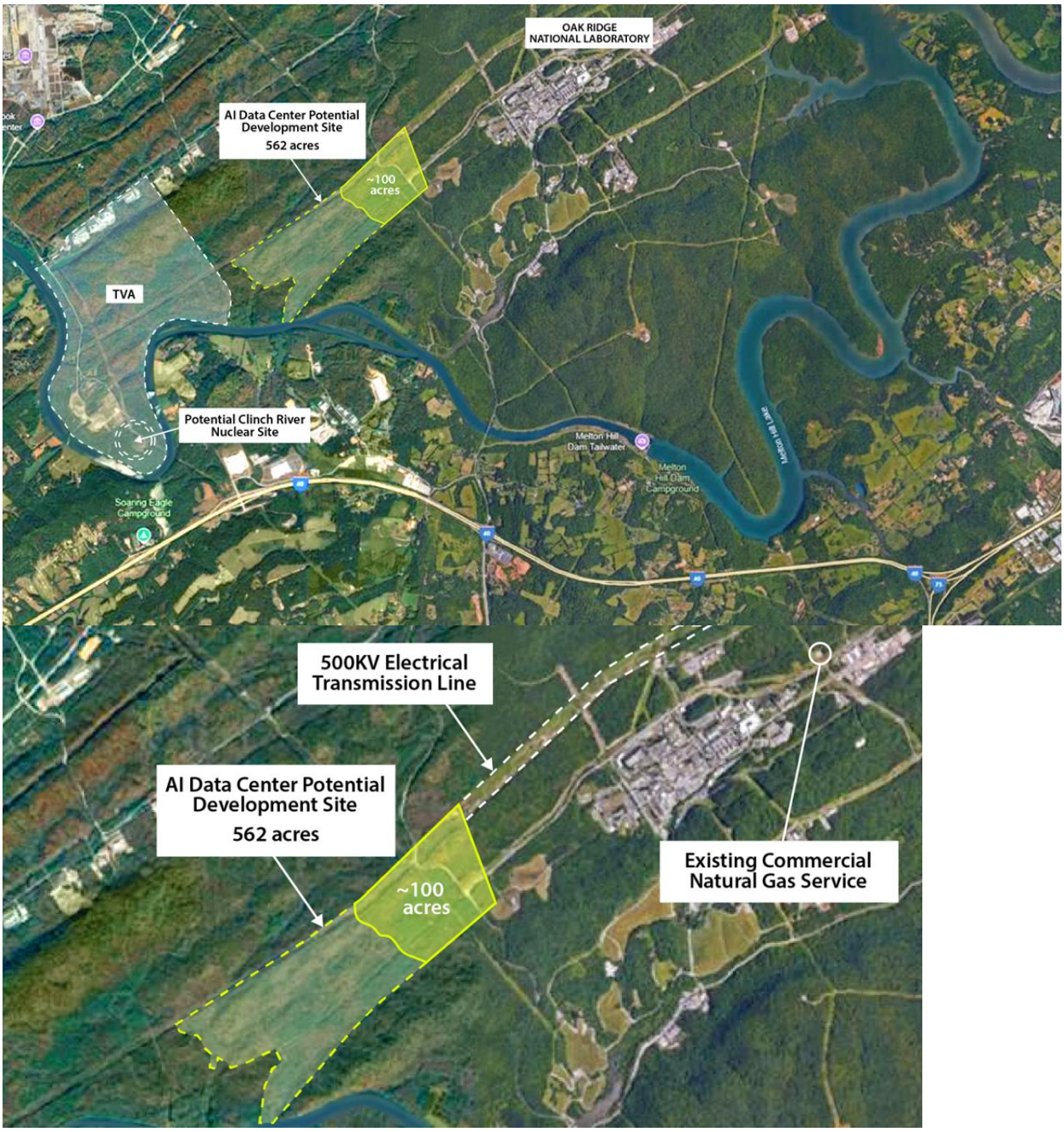
09/13/2021



Appendix 9. Oak Ridge National Laboratory

Summary: The Department of Energy (DOE) has federal land available contiguous to the Oak Ridge National Laboratory (ORNL) which is well-suited to support the President's AI Infrastructure initiative within the two-to-three-year goal. The area has utilities anticipated to be sufficient to support the rapid development of an AI data center. Local power resources include 500KV transmission lines from local TVA hydro, nuclear, and fossil fuel generation plants. Additional onsite generation capacity is possible from a nearby regional natural gas distribution pipeline. The site is also located approximately 5 miles from the proposed TVA Clinch River Small Modular Reactor (SMR) site, providing a future opportunity to capitalize on regional nuclear infrastructure up to 800MW in capacity. Water resources are readily available from local utility providers or potentially developable on site from the Clinch River. Multiple commercial telecom providers are accessible from the site.

Site Details: The site is a 562-acre plot of DOE land for potential commercial development with approximately 100-acres suited for near-term development that is centrally located near several major cities, natural waterways, and the interstate network. Adjacency to Oak Ridge National Laboratory (ORNL) provides strong synergy with existing world-leading research programs and user facilities for AI, high performance computing, and quantum information sciences. The proposed site has no significant environmental restrictions for development and poses no national security concerns.


OAK RIDGE
NATIONAL LABORATORY
AI Data Center Potential
Development Site
562 acres
~100
acres
TVA
Potential Clinch River
Nuclear Site
Melton Hill
Dam Tailwater
Melton
Hill Dam
Campground
Soaring Eagle
Campground
500KV Electrical
Transmission Line
AI Data Center Potential
Development Site
562 acres
~100
acres
Existing Commercial
Natural Gas Service

Appendix 10. Pacific Northwest National Laboratory

Summary: The Pacific Northwest National Laboratory (PNNL) in Richland, WA. PNNL has access to the highly skilled labor needed to construct and operate the power generation facilities; and to quickly build the proposed frontier AI data center, benefiting from construction costs that are significantly lower than the national average. The area offers a stable, dry climate with low humidity and minimal natural disaster risk, making it ideal for reliable operations. In addition to hydroelectric and conventional nuclear power, small modular reactors (SMRs) envisioned by energy providers in the region could provide additional power for the data center. These are among the reasons that major hyper-scalers have chosen eastern Washington for their large data centers.

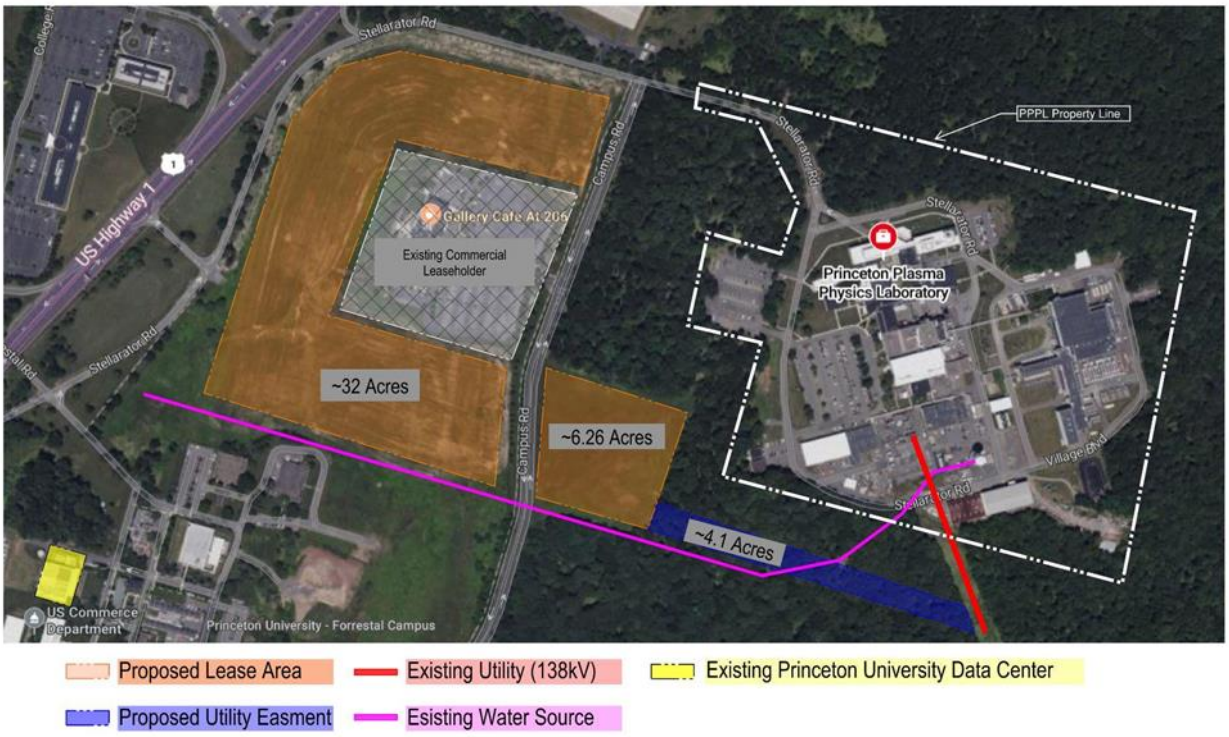
Site Details: The City of Richland currently owns 295 acres of available land (notated in the black outline below), transferred from the U.S. Department of Energy in 2015 under the condition of using it for economic development.


PORT OF BENTON
RUBY FLATS SOLAR FARM
ENERGY NORTHWEST
CITY OF RICHLAND
WASHINGTON ENERGY FUTURE PURCHASE: 425 ACRES
CITY OF RICHLAND
CITY OF RICHLAND
PORT OF BENTON
ATLAS AGRO FUTURE PURCHASE: 140 ACRES
HAMMER TRAINING FACILITY
FRANKLIN
PACIFIC NORTHWEST NATIONAL LABORATORY
N
NORTHWEST ADVANCED CLEAN ENERGY PARK
PRELIMINARY DEVELOPMENT LAYOUT
FEBRUARY 25, 2025

Appendix 11. Princeton Plasma Physics Laboratory

Summary: Princeton Plasma Physics Laboratory (PPPL) and Princeton University (PU) explore the opportunity to have been at the cutting edge of high-performance computing and AI developments for decades, from Alan Turing's Ph.D. in the 1930s to John Hopfield's 2024 Nobel Prize in Physics for neural networks to Egemen Kolemen's Nature paper in 2024 using AI for fusion reactor control. The intellectual breadth of AI work in the Princeton ecosystem, including the recent announcement of an AI Hub for NJ centered here, combined with the available land and power infrastructure, make PPPL and PU ideal partners to host an AI data center and foster innovations that will advance computational science and scientific discovery. This center would emphasize accelerating fusion energy development and energy system optimization, exploit new data that will come from the NSTX-U fusion user facility that will come online in 2026, and foster public-private fusion partnerships. By aligning with the Department of Energy's broader AI development objectives, this center would drive advancements in AI tool development and implementation, support regional economic growth, and deliver on the vision of enabling next-generation computing capabilities through shared synergy, strength, and leadership.

Site Details: PPPL is located in central New Jersey, occupying ~88 acres on PU's Forrestal Campus. Forrestal Campus, located approximately three miles north of the University's main campus, encompasses 825 acres and hosts a blend of commercial leases, open space, and laboratory sites (DOE's PPPL and the National Oceanic and Atmospheric Administration's (NOAA's) Geophysical Fluid Dynamics Laboratory (GFDL)). Forrestal Campus offers a vibrant, cross-cutting ecosystem primed for test-bed development opportunities in AI. Public Service Electric & Gas Co. (PSE&G) is our site's local energy provider, NJ's oldest and largest gas and electric delivery public utility and one of the nation's largest. Our site currently has 100 MW of energy capacity with district upgrade potential available, and current water contract with NJ Water Supply Authority includes ~55 million gallons/year. The physical location in central New Jersey provides proximity to metropolitan areas and a multitude of commercial entities, providing ease of access for data center workforce and user recruitment. The PPPL-PU-hosted AI data center would also support an eastern hub of AI innovation serving public and private partners in (for example) Pennsylvania, New York, Connecticut, and Massachusetts.



Appendix 12. Los Alamos National Laboratory

Los Alamos National Laboratory (LANL) is committed to an enduring on-premises High Performance Computing (HPC) and infrastructure to support its current plan-of-record and expanded AI mission scope. LANL has already responded to other recent calls for on/offsite data centers and has a consistent strategic approach that enables mission plan-of-record for continuing support for leading-edge HPC and the expanded AI mission requiring up to 70MW by 2027 and 160MW by the early 2030s. LANL is executing an upgrade of the Strategic Computing Complex (SCC) to 70MW, which requires the Electrical Power Capacity Upgrade (EPCU) and the SCC Electrical Upgrade (SEU) GPP; these projects are funded and near start of construction currently. LANL's strategy is to leverage new off-premises power and water capabilities to supplement its enduring on-premises capabilities. In responding to this call, LANL recognizes that this new on-premises commercial data center would expand our mission further, and without new power sources or exercising EPCU options, would be limited to a total of 100MW for HPC+AI infrastructure. This on-premises 100MW limit, would need to be operationally managed with the newly upgraded SCC (70MW) mission.

The SCC could host low-density data systems, reducing its peak power needs to below current levels, and still take advantage of 70MW total capability by re-configuring its electrical distribution back to its original configuration of 2N power. This would enable shifting power from the SCC to the new AI facility. A better approach would be to identify and deploy new on-premises power sources such as gas turbine (exercise options to expand the existing steam plant), or nuclear small modular reactors.

Site Details: Identified, reserved, and generally undeveloped ~40-acre land site adjacent to TA-06 WTA power substation for siting a high-density High Performance Computing facility suitable for AI (N-06-07 and N-06-06 on map below and in LANL site master plans). Site and surrounding land are DOE federally owned. Updated SWEIS nearing approval that includes new construction for a mission expanding new HPC infrastructure of at least 100,000 square foot facility, a 25,000 square foot staging facility, and a parking lot in currently undeveloped area in TA-06 adjacent to the WTA substation to support AI supercomputers to replace or supplement the current HPC at the SCC. The facility would use evaporative cooling and could require up to 162 million gallons of cooling water from Los Alamos County, and 62 million gallons of potable water would be required. An additional water treatment facility may be required to supply treated water for supercomputer cooling operations at the new facility. A new NPDES-permitted outfall was proposed in Two-Mile Canyon for this proposed facility. The facility was described as needing electrical demand of up to 100MW. This power would need to be coordinated with future use of the existing SCC. Expanded mission alternative also includes planning for up to 150MW of solar arrays on-premises.

CMP Whiteboard map (TA-06)

Appendix 13. Sandia National Laboratories

Summary: The National Nuclear Security Administration (NNSA)'s Sandia National Laboratories (Sandia) is responsible for the development, testing, and production of specialized nonnuclear components and quality assurance and systems engineering for all U.S. nuclear weapons. Sandia has locations in Albuquerque, New Mexico; Livermore, California; Kauai, Hawaii; and Tonopah, Nevada. It is managed and operated by National Technology and Engineering Solutions of Sandia, LLC.

Site Details: Sandia has currently identified two sites of roughly ~9 acres each. There may also be a possibility to collaborate with Kirtland Airforce Base (KAFB) for a site. Tech Area II Site: This area is in a secondary conservation area. A biological survey would be required before the initiation of any outdoor work during the breeding season (March 1 through September 15). An archaeological survey would also be required prior to any ground disturbance. Eubank site: The proposed site would require an archaeological survey prior to any construction work. The site is not in a conservation area. Sandia is unique in that it is located on an Air Force Base which provides added security for a data center and infrastructure.

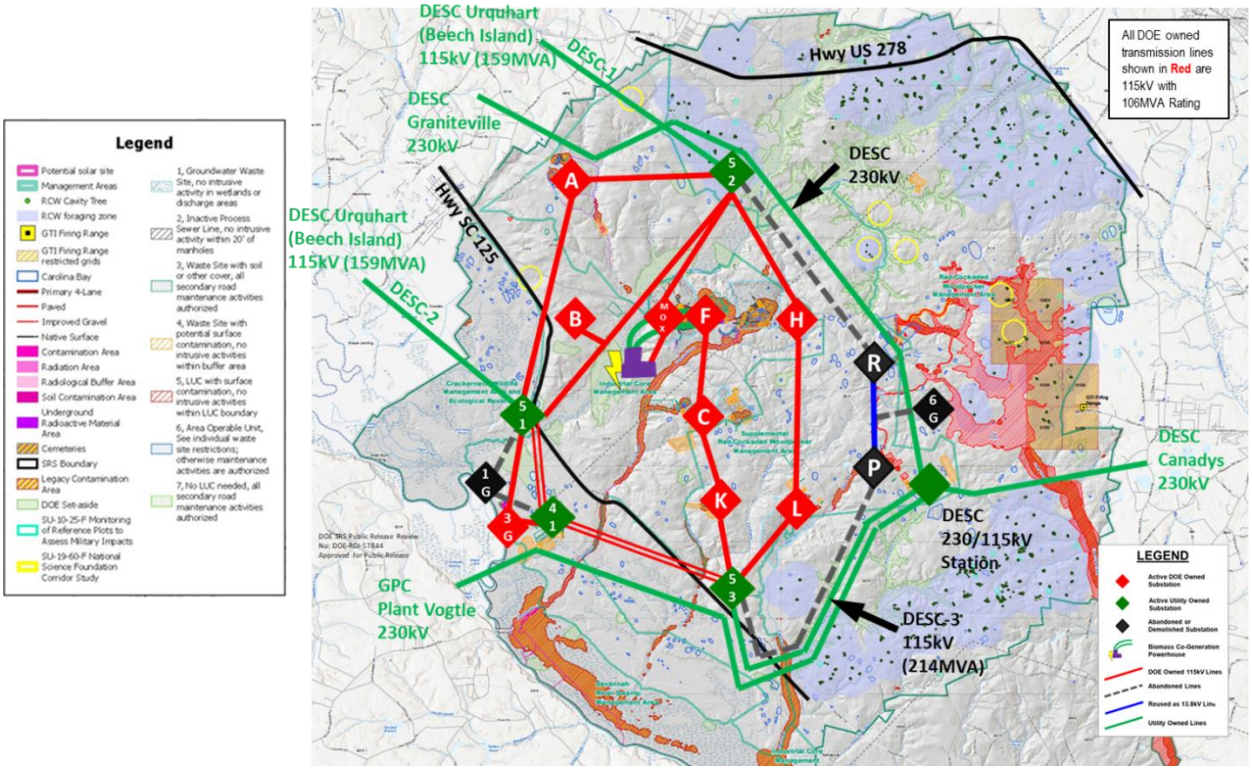

Site B
Site A
Kirtland Air Force Base
Southern Ave SE
La Entrada SE
Club Rd SE
Mountain Laurel Cir SE
Dusty Miller Rd SE
Silverberry Rd SE
Wyoming Blvd SE
W Sandia Cir SE
Birch Ct SE
34th St SE
E Sandia Cir SE
Lupine Cir SE
Paintbrush Ave SE
A Ave SE
Royo Vuelta Cir SE
16th St SE
Stephen Moody St SE
B Ave SE
Bluebonnet Rd SE
Silver Sage Rd SE
Golden Smoke Dr SE
Golden Poppy Cir SE
2nd St SE
D Ave SE
Gibson Blvd SE
Britt St SE
Eubank Blvd SE
Research Rd SE
5th St SE
7th St SE
Van Noy Dr SE
Erwin SE
Foster SE
F Ave SE
NCO Byp SE
G Ave SE
1st St SE
10th St SE
H Ave SE
Innovation Pkwy SE
I St SE
J St SE
K St SE
18th St SE
20th St SE
12th St SE
11th St SE
9th St SE
L St SE
M Ave SE
M St SE
3rd St SE
K Ave
14th St SE
Hardin Dr SE
Wyoming Blvd SE
P Ave SE
Ordnance St SE
R Ave SE

Appendix 14. Savannah River Site

Summary: The National Nuclear Security Administration (NNSA) operates a 310-square-mile site at the Savannah River Site (SRS) near Aiken, South Carolina, to supply and process tritium, a radioactive form of hydrogen that is a key component of nuclear weapons. SRS loads tritium and non-tritium reservoirs; processes reservoirs; and recycles, extracts, and enriches tritium gas. SRS also plays a key role in NNSA's nonproliferation missions. SRS is run by Savannah River Nuclear Solutions.

Site Details: The footprint of a data center is very small compared to the 310 square miles of SRS; therefore, a more detailed description of the site requirements is required to select the best locations. Savannah River Site requires submission of a Site Use Permit application prior to allowing any activity on any tract of land onsite. The process provides: a method of informing various stakeholders of proposed plans for a tract of land to identify conflicts between the permit application and previously granted permits; a forum for impacted stakeholders to communicate concerns about or support for the application; and a way to facilitate discussion between requestors and impacted stakeholders to establish guidelines and/or restrictions that allow the proposed usage to go forward.

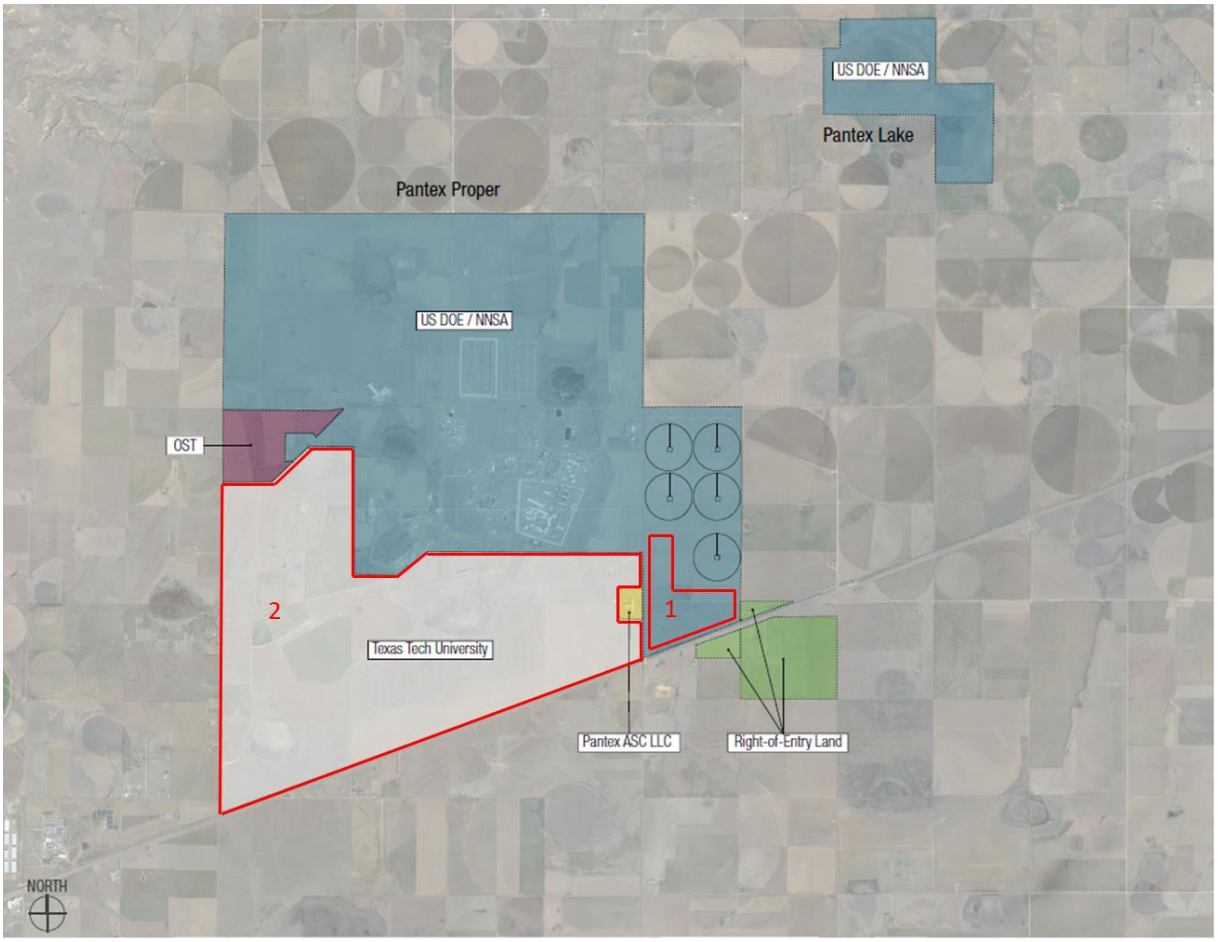
Once a suitable location for a data center is determined, the Site Use Permit application will be submitted. Approved permits may for example require or allow moving a boundary, relocating endangered species, providing access to monitoring stations, establishing buffer zones around wetlands, etc.



Appendix 15: Pantex Plant

Summary: Constructed in 1942 as an ordnance facility, the Pantex Plant (Pantex) produced conventional artillery shells and bombs in support of the World War II effort. In 1951, Pantex was selected for use as a high explosives fabrication and weapon assembly installation for the nuclear weapon complex. Pantex is the nation's primary site for assembly and disassembly of nuclear weapons and is the Center of Excellence for High Explosives Manufacturing. Pantex also supports other priority objectives including nuclear component staging and storage and special nuclear material requalification, surveillance, and packaging.

Site Details: Area 1 (PREFERRED): approximately 380 acres of the National Nuclear Security Administration (NNSA) owned land. There are water reservoirs, sprinklers and environmental wells in the area that would have to be considered for siting, but this is the preferred location. Area 2: approximately 5,700 acres currently owned by Texas Tech University (TTU) and leased by NNSA. This area could potentially be purchased from TTU but would require a real estate agreement. The southwest portion of Area 2 includes Formerly Used Defense Site land with historical contamination. Any of the farmland located around Pantex could be considered for purchase.



Appendix 16. Kansas City National Security Campus

Summary: The National Nuclear Security Administration's (NNSA) Kansas City National Security Campus (KCNSC), located near Kansas City, Missouri, is responsible for manufacturing and procuring nonnuclear components for nuclear weapons, including electronic, mechanical, and engineered material components. It supports national laboratories, universities, and U.S. industry. KCNSC was formerly known as the Kansas City Plant. It is managed and operated by Honeywell Federal Manufacturing & Technologies, LLC.

Site Details: Proposed site acreage: 50 acres (~35 acres currently cleared). Site Address: 19342 S. Mullen Rd.; Belton, MO 64012. Land Ownership Status (site): DOE/NNSA. Land Ownership Status (surrounding): Multiple owners; primarily agricultural/low density residential. Site is surrounded with security fencing with access control gate and benefits from roving patrol coverage. It currently enjoys residential power and water support.