

**Memorandum of Understanding
Between
The U. S. Department of Energy/National
Nuclear Security Administration
and
The Texas Tech University System and Texas
Tech University**

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This Memorandum of Understanding (MOU) is entered into by the Pantex Site Office (PXSO) of the U.S. Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Texas Tech University ("Texas Tech") (collectively, "the Parties"). The purpose of this MOU is to establish and set forth the relationship of the Parties and defines their roles regarding efforts to consider the feasibility of the development of land management and renewable energy projects and related research activities at the DOE/NNSA Pantex site (the "Pantex Project"). The Parties acknowledge that this MOU provides a basic understanding of mutual cooperation and assistance between the Parties, and is not a binding contract. The Parties also acknowledge that each must receive authorization and funding prior to the commencement of the Pantex Project. Accordingly, this MOU is neither a fiscal nor a funds obligation document, and nothing herein shall obligate either Party to expend, exchange, or reimburse funds, or to purchase services or supplies, or to transfer, receive or commit anything of value. The Parties agree that this MOU may be terminated at will by either Party effective upon issuance of written notice. Upon receipt of final authorization and funding by the Parties to proceed with the Pantex Project, the Parties shall enter into a formal written agreement establishing the responsibilities of the Parties consistent with the intent of this MOU.

WHEREAS, the Energy Policy Act of 2005 ("EPACT 2005;" P.L. 109-58) requires, in part, that "[T]he President, acting through the Secretary of Energy, shall seek to ensure that, to the extent economically feasible and technically practicable, of the total amount of electric energy the Federal government consumes during any fiscal year, the following amounts shall be renewable energy:

- a) Not less than 3 % in fiscal years 2007 through 2009.
- b) Not less than 5 % in fiscal years 2010 through 2012.
- c) Not less than 7.5 % in fiscal year 2013 and each fiscal year thereafter."

(Section 203(a) of EPACT 2005, 42 U.S.C. § 15852(a).)

WHEREAS, Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management" was issued on January 24, 2007. This executive order sets goals for federal agencies in the areas of energy efficiency, renewable energy, recycling, sustainable buildings, and water conservation. One of these goals is to "ensure that (i) at least half of the statutorily required renewable energy consumed by the agency in a fiscal year comes from new renewable sources, and (ii) to the extent feasible, the agency implements renewable energy generation projects on agency property for agency use."

WHEREAS, the memorandum dated September 22, 2009, by Daniel B. Poneman, Deputy Secretary of Energy, on the subject of "Principles for Management Reform" states that, "The mission of the Department of Energy comprises several elements" including the following:

- "To change the landscape of energy demand and supply in order to reduce dangerous greenhouse gas emissions and American dependence on foreign oil;" and
- "To support the development of a clean energy industry that will create millions of green jobs and promote American prosperity."

WHEREAS, Renewable Energy Certificates (RECs) – also known as renewable energy credits – from renewable sources of electricity may be used to meet the EPACT 2005 goal and the EO 13423 goal. EPACT 2005 allows for double credit (a bonus equivalent to doubling the amount of renewable energy used) if any of the following conditions are met:

- a) the renewable energy is produced and used on-site at a Federal facility;
- b) the renewable energy is produced on Federal lands and used at a Federal facility;
- c) the renewable energy is produced on Indian land as defined in Title XXVI of the Energy Policy Act of 1992 (25 U.S.C. § 3501. et seq.) and used at a Federal facility; or
- d) the electricity produced on-site at a Federal facility is sold to a third party, but the power purchase contract explicitly states that the Federal agency retains ownership of the related RECs and non-energy attributes.

(Section 203(c) of EPACT 2005, 42 U.S.C. § 15852(c); and “Renewable Energy Requirement Guidance for EPACT 2005 and Executive 13423,” January 28, 2008; prepared by the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program.)

WHEREAS, DOE/NNSA owns approximately 10,000 acres of land and improvements in Carson County, Texas, in the Texas Panhandle, where the Pantex Plant is located. The Pantex Plant is currently managed and operated for DOE/NNSA under contract by Babcock & Wilcox Technical Services Pantex LLC (B&W Pantex).

WHEREAS, the Texas Panhandle frequently experiences windy conditions and is therefore an area that is suitable for wind energy projects. In the Wind Power Classification System, the Texas Panhandle is rated “Class 4,” which is considered a good resource for generating power with large wind turbines.

WHEREAS, even within a Class 4 area such as the Texas Panhandle, siting the wind turbine generators and determining the specific location of each unit is important. Meteorological data is necessary to determine whether there are any local variations in wind patterns due to factors such as topography. In addition, information on the location (latitude and longitude) and height of each wind turbine is needed in order to obtain the approval of the Federal Aviation Administration (FAA). (See 14 CFR Part 77.)

WHEREAS, Texas Tech owns approximately 6,000 acres of land that is leased to DOE/NNSA. Situated between the main part of the Pantex Plant and U.S. Highway 60, this land serves as a security buffer and is managed and operated by Texas Tech for agricultural purposes.

WHEREAS, the Wind Science and Engineering Research Center is a research and education center at Texas Tech. The primary objectives of the center’s comprehensive and interdisciplinary research program are to exploit the useful qualities of wind and to mitigate its detrimental effects.

WHEREAS, in order to expand the capabilities of its Wind Science and Engineering Research Center, Texas Tech proposes the development of a world-class wind energy research center to be located adjacent to the Pantex site on land owned by Texas Tech. The focus of this wind energy research center would be to support the nation’s long-term energy goals by conducting wind research, contributing to workforce development, and developing wind energy technologies that help resolve the key scientific challenges facing the industry. Texas Tech’s goal is to create the

nations largest research wind farm which evolves into a significant Federal research and development (R&D) relationship. Texas Tech wants the research wind farm to generate sufficient revenue to be self-sustaining and to fund a significant research effort for Texas Tech and its collaborators (institutions, national laboratories and industry partners with which TTU has affiliation or cooperative research agreements in place.)

WHEREAS, DOE/NNSA and Texas Tech will study the feasibility of installing wind turbine generators and the construction of the related infrastructure on Pantex property. This project has the potential to help NNSA meet its renewable energy goals through the generation, use, and export of renewable energy.

WHEREAS, the National Wind Resources Center (NWRC) will be a nonprofit organization formed by TTU, have an independent board and focus on research and education through Cooperative Research and Development Agreements (CRADA's) with national laboratories, academic institutions and trade organizations.

WHEREAS, The National Institute for Sustainable Energy (NISE) is a public-private partnership which will focus on generating a profit by building and operating research wind farms and other facilities which facilitate renewable energy research, creation of a for-profit industry consortium and providing for-profit services to industrial partners. Any net profit generated by NISE through the development of research facilities, provision of services to industry partners and/or development of the industrial consortium will be returned to NWRC and other research entities to further their collaborative research and education missions.

Now, therefore, the Parties anticipate the following events will occur if the various contingencies are successfully addressed in the future:

1. DOE/NNSA will seek funding and approval through appropriate channels in order to authorize proceeding with the planning, design and construction of a project for the installation of wind turbine generators at Pantex to be managed by Texas Tech. DOE/NNSA will coordinate the work related to requesting and obtaining the necessary approval from other federal agencies. DOE/NNSA will also address environmental compliance for the Pantex Project under the National Environmental Policy Act (NEPA).
2. Subject to licensing, funding constraints, and other necessary approvals, the Parties agree to work closely on planning and designing the Pantex Project. As part of the feasibility process, the Parties will collaborate on the determination of the optimal location, spacing, and configuration of the wind turbine generator array.
3. DOE/NNSA agrees to allow Texas Tech to develop agreements with their collaborators to provide such collaborators with defined access to the wind field for designated research purposes. Such agreements will require collaborators to abide by security and other guidelines as established between Texas Tech and DOE/NNSA and PXSO. Various types of agreements or other arrangements could potentially address the research effort and the relationships between Texas Tech and the Federal Government or between Texas Tech and other Texas state agencies. Those instruments are outside of the scope of this agreement and may supersede this MOU in whole or in part.

4. Texas Tech agrees to be responsible for the operation and maintenance of the wind turbine generators. This arrangement will be the subject of a separate long-term agreement which will ensure adequate compensation for these services.

5. Texas Tech will study the feasibility of constructing facilities on Texas Tech property at Pantex for research, education, and administration related to wind science and engineering. If feasible, Texas Tech intends to enter into a separate long-term lease agreement with DOE/NNSA for a **portion of this research facility to be used as administrative offices.** DOE/NNSA and Texas Tech plan to collaborate on the design of the research facility and administrative office complex in order to accommodate the needs of both entities.

6. Texas Tech and their collaborators (institutions, national laboratories and industry partners with which TTU has affiliation or cooperative research agreements in place) may pursue the development of a commercial wind farm on Texas Tech property next to Pantex which may be solely for commercial or joint commercial and research purposes. If feasible, these entities will work together to enable this development for support of the Center and its broader collaborative research and education missions.

7. Consistent with applicable laws and regulations, the Parties desire to pursue initiatives that would lead to the provision of ongoing operational and research funding for the research facility. The parties understand that legislation may be needed in order to provide DOE/NNSA the authority to allow Pantex to retain energy sales revenue or royalties at the site. These funds would be used for updating equipment within the wind farm, funding the facility lease, and supporting the Center's research initiatives.

8. Texas Tech personnel will be required to comply with the Pantex Plant's security requirements. Individuals must be processed through Pantex Security and obtain an uncleared badge in order to gain access to the Pantex Plant. DOE/NNSA intends to grant Texas Tech and its agent access to the Pantex Plant limited to those areas of the Plant's property protection area to which badged, uncleared personnel are generally allowed. Pantex Plant Security personnel will brief Texas Tech personnel on security requirements each year, or more often if necessary.

9. The Parties will develop a list of official contact personnel with telephone numbers, responsibilities, and backups. (The contact list is included as an attachment to this MOU.) Certain individuals on this contact list will be identified as key personnel who may contact each other directly for information purposes, but only the official designated representatives will have the authority to issue direction based on the requirements of the various agreements related to this project.

10. The appropriate health and safety regulations and requirements are applicable to each of the respective Parties. Generally, the requirements of the Occupational Safety and Health Administration (OSHA) are applicable to the work covered by this MOU. The requirements of 10 CFR Part 851 do not apply to the work covered by this MOU because Texas Tech does not meet the definition of a "contractor" performing work under contract with DOE at a DOE site.

11. Collaboration and activities under this MOU will be in accordance with the applicable laws and regulations governing the respective entities and shall be subject to the availability of funds.

12. The Parties agree to coordinate the review and release of information. Any consideration of release of information to the public regarding activities carried out under the terms of this MOU will be discussed and mutually agreed upon by the appropriate management officials, or their designees, consistent with program classification guidance and applicable statutes and regulations.
13. Nothing in this MOU shall be interpreted to limit or otherwise affect any authorities, powers, rights, or privileges accorded to the Parties or any of their officers or employees under any statute, rule, regulation, contract, or agreement.
14. This MOU in no way restricts either of the Parties from participating in any activity with other public or private agencies, organizations or individuals.
15. This MOU is effective immediately upon signature. The Parties will conduct annual reviews of this MOU to determine the need for any revisions. Any revisions may be made as mutually agreed upon in writing by both Parties. If a revision is determined to be necessary, the changes will be incorporated and distributed for review and approval.
16. The following agreements describe various legal relationships at Pantex between the Parties and are included as attachments to this MOU:
 - 1) Lease Agreement No. DE-RL04-89AL42110, Kilgore Center.
 - 2) Lease Agreement No. DE-RL04-89AL42111, Bull Barn & Sheds.
 - 3) Lease Agreement No. DE-AC04-84AL24002, Tracts I and II (as revised to allow Texas Tech unencumbered access to 315 acres in the southeast corner of Tract I).
 - 4) Lease Agreement No. DE-RL-89AL42109, Tract III.
 - 5) The Service Agreement that covers Texas Tech's management of DOE/NNSA land for agricultural purposes and renewable energy research and development.
 - 6) DOE/NNSA's proposed lease of office space at Texas Tech's National Wind Resource Center.
 - 7) Texas Tech lease of federal land for wind turbine installation and operation.
 - 8) NNSA/TTU Security Plan for TTU access to the Pantex Plant.

DOE/NNSA/PXSO



Steven C. Erhart

Manager

Pantex Site Office

Signed the 31 day of Dec 2009

TEXAS TECH UNIVERSITY



Guy Bailey

President

Texas Tech University

Signed the 22 day of Dec 2009

TEXAS TECH UNIVERSITY SYSTEM



Kent Hance

Chancellor

Texas Tech University System

Signed the 22 day of Dec 2009