ATTACHMENT J2

Wright-Patterson AFB
Natural Gas Distribution System

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J2.1 Wright-Patterson AFB Overview

Wright-Patterson Air Force Base (WPAFB) is located in Montgomery and Greene Counties, in the northeast portion of the Greater Dayton, Ohio area. The communities of Dayton, Riverside, Fairborn, and Huber Heights border this Base, which encompasses 7,198 acres plus 431 acres of easement or permits for a total of 8,145 acres of land. WPAFB is also an integral part in the multi-county region (Miami, Montgomery, Greene, and Clark Counties), serves as the largest single-site employer in the region, and provides employment and economic benefits to an area of nearly one million people.

J2.1.1 Installation History

The history of WPAFB begins with, and is still closely related to the legacy of Wilbur and Orville Wright. The Wright Brothers' early aviation accomplishments occurred at Huffman Prairie Flying Field, which is located off of the end of Runway 23, and is marked to commemorate their flying achievements. Today the influence of the Wright Brothers remains evident, as WPAFB is still a strong leader in both military aviation research and development.

Aviation research and development began to occur during the World War I era. In 1917, Wilbur Wright Field was established as a pilot training school, and McCook Field (near the intersection of State Route 4 and Interstate 75) was established as an air service engineer center. Following World War I, McCook Field outgrew its facilities and required a more permanent home. In 1924 the City of Dayton donated over 4,500 acres of land for the construction of an aerodrome and new research facilities. This area makes up much of what is WPAFB today.

During World War I, WPAFB began its involvement in the field of logistics. This occurred with the establishment of the Fairfield Aviation General Supply Depot, which was located adjacent to Wilbur Wright Field. The depot became known as the Fairfield Air Depot, and served as a major Army Air Corps depot through the end of World War II. Central control for the entire Air Force depot system evolved at WPAFB, forming today's modern logistics network.

In 1931, Wilbur Wright Field, Fairfield Air Depot, and Huffman Prairie were renamed Patterson Field, in honor of Lt. Frank Stuart Patterson, who died while flight testing machine gun synchronization technology. The fields were officially merged and were permanently designated as Wright-Patterson AFB on 13 January 1948. At that time the 2750th Air Base Wing assumed the host organization duties for the Base.

The 2750th remained the host organization until 1992, when the Aeronautical System Center assumed the host duties. The 2750th was redesignated as the 645th Air Base Wing then redesignated again in 1994 as the 88th Air Base Wing (88 ABW).

Today, WPAFB serves as the site for the conception, testing, modification, and re-testing of weapon systems. Using this technology, the Base has assured the Air Force "that it will continue to be the most responsive deterrent force in the history of aviation."

J2.1.2 Physical Assets

Facilities at the Base encompass a runway, associated taxiways and parking aprons, administrative areas, industrial facilities, testing/developmental laboratories, dormitories, hospital, housing areas, recreational facilities, and open space. The overall land/facility profile of WPAFB AFB is shown in the following table.

Installation Assets	
Land Area (fee-owned)	7,198 Acres
Easements/ROWs	431 Acres
Buildings	850; 16,090,677 SF
Military Family Housing	2,249 Units; 3,839,212 SF

WPAFB is comprised of several geographic areas, generally referred to as Areas A, B, and C. The smallest of the three main areas is Area A. This area runs along the north side of Highway 444 between Gates 16A and 9A. It includes the hospital, headquarters complex, and three housing areas (Brick Quarters, Pine Estates, and Green Acres). Area B is the area on the south side of Highway 444, formerly known as Wright Field. It includes the Air Force Museum and the Prairies and Woods housing areas. Area C is by far the largest area and was formerly known as Patterson Field. It includes the active airfield and most of the Base facilities and flying activities. Area C also includes two sub-areas: Kitty Hawk Center and the West Ramp. Kitty Hawk Center is a small triangular plot east of Highway 444 and just south of the City of Fairborn that contains the community support complex and a high temperature hot water (HTHW) plant. The West Ramp area is on the northwest side of Area C and includes all facilities on the northwest side of the main runway.

WPAFB is all fee-owned, including two GSUs. There have been approximately 85 fee acquisition transactions (20 for Areas A and C and 65 for Area B) over the last 80 years ranging in size from a fraction of an acre to over 4500 acres.

For the utility systems, the AF has been granted many easements and rights-of-way (ROW), some by Government agencies, some by private entities.

J2.1.3 Mission, Organization, and Associate Units

The U.S. Air Force (USAF) mission is continually evolving at WPAFB as research continues towards "faster, higher, farther, and safer" flight. Missions at the Base include acquisition, logistics management, research and development, education, flight operations and many other activities that prove to play a crucial role in the nation's defense.

- The Aeronautical System Center (ASC) is the host organization at WPAFB. The organization is comprised of the Acquisition Force, the 74th Medical Group, and the 88th Air Base Wing. Together these units create the "Aerospace Research and Acquisition Center of Choice, the Birthplace, Home, and Future of Aerospace." The primary mission

of ASC is systems acquisition, which is accomplished through the development and acquisition of state-of-the-art combat-ready aeronautical weapons and related support systems for USAF operation commands. Every fighter, bomber, cargo, and trainer aircraft in the USAF inventory were developed at ASC, as well as all but one reconnaissance aircraft. The ASC also maintains the vision, "to lead the world in the development of flight; to advance the air and space dream; and to support the vision, mission, goals, and objectives of the USAF."

- There are several missions managed by ASC's Acquisition Force, Air Base Wing, and Medical Group. The primary missions and responsibilities of these groups include streamlining the acquisition process while strengthening strategic and conventional forces, expanding airlift capabilities, and modernizing and expanding the combat forces. The Acquisition Force manages the development and acquisition of aeronautical systems, and oversees complex strategic and tactical programs. The Air Base Wing is responsible for operations, and supports activities serving all ASC organizations and associate units. The Wing manages over 8,000 acres of land and approximately 1,600 facilities. The Medical Group offers comprehensive health and dental care in more than 52 specialties for active duty and retired military personnel, and their families. The WPAFB Medical Group is also recognized for operating the second largest medical facility in the USAF.

Over 60 associate units are currently housed at WPAFB. These organizations represent a variety of critical Department of Defense (DOD) activities. The following is a summary of major associate organizations that reside at WPAFB and their primary responsibilities.

- The Air Force Material Command (AFMC) is headquartered at WPAFB and has been associated with WPAFB since 1917. The command serves as the organization responsible for the management of weapon systems. Their mission involves building and sustaining military systems throughout their service life. This is accomplished through the management of research, development, testing, acquisition, and support of all Air Force weapon systems.

- The United States Air Force Museum (AFM) located at WPAFB is the world's largest and oldest military aviation museum, and is host to nearly one million visitors from the world on an annual basis. The AFM operates with the primary mission and goal of preserving the history of military aviation, and has been in operation since 1923.

- HQ National Air Intelligence Center (NAIC) constitutes the primary DOD agency for production of foreign aerospace intelligence. The center is responsible for assessing current and projected foreign aerospace capabilities, developing mission-planning intelligence materials, and evaluating technologies of potential adversaries. The NAIC mission involves utilizing these responsibilities to provide national decision makers accurate and timely technical information on the capabilities and potential threats of foreign powers to ensure U.S. air superiority.

- The Air Force Research Laboratory (AFRL) is responsible for leading the discovery, development, and transition of aeronautical technologies. The AFRL is comprised of seven major Directorates with functional responsibilities in advanced technology development. Five of the seven research directorates are located at Wright Field.

- The Air Force Institute of Technology (AFIT) offers accredited graduate and professional continuing education programs to AF personnel. The AFIT operates under the mission of keeping the Air Force on the leading edge of aerospace technology and management, through specialized education, basic research, and consultation.
- The 445th Airlift Wing of the USAF Reserve Command are stationed at WPAFB and fly C-141B Starlifter aircraft. The 445th has the mission of attaining and maintaining operational readiness; providing strategic transport of personnel and equipment; providing aeromedical evacuation; and recruiting and training towards these goals. The wing is comprised of four attached groups, and if ever required to mobilize, is part of the Air Mobility Command from Scott Air Force Base, Illinois. This group has resided at WPAFB since October 1994.
- DISAM is the DOD Defense Institute of Security Assistance Management. They are responsible for education and training for personnel involved in security assistance management.
- AFSAC is the Air Force Security Assistance Center. This center is responsible for the management of foreign military sales cases and contracts.
- The 55th Wing is a component of Air Combat Command and supports the National Airborne Operations Center. This involves providing modern, highly survivable, command, control, and communications capabilities for directing U.S. Forces.
- The Defense Information Systems Agency (DISA) missions at WPAFB are to provide the Air Force new business proposals, marketing requirements for their agency, and standard executive software for large computer mainframe requirements. The Defense Enterprise Computing Center Detachment Dayton provides computer operations.
- The Materiel Systems Group's (MSG) mission is to provide combat support information to the warfighter. MSG focuses on providing value to the customer and supports the Air Force implementation of the Aerospace Expeditionary Forces. MSG is headquartered at WPAFB with operating locations at Tinker AFB, Oklahoma and Hill AFB, Utah.

J2.1.4 Population

WPAFB employs over 20,000 persons and is considered the largest single-location employer in the State of Ohio and one of the largest employers among AF Bases worldwide. The following table breaks down the WPAFB population:

Category	Population
Active Duty U.S. Military	5,531
Appropriated Fund Civilians	11,705
Non-Appropriated Fund Civilians	1,003
Non-extended Active Duty ANG/Reserve	2,060
Total – Base Employees	**20,299**
Active Duty Dependents	11,856

Contract Employees (estimated)	12,000
Total	**44,155**

J2.1.5 Housing

There are 2,249 permanent housing units totaling 3,839,212 square feet of living space, located in distinct housing developments around the Base. These units can be divided into the following categories:

- **Brick Quarters –** These were the first housing units constructed at WPAFB and are part of a Historic District. They consist of 91 military family housing units built between 1933 – 1935 and an additional 10 units constructed in 1970. The Foulois house (88 Wright Avenue) lies with this area. Utility mains excluded from the housing privatization (HP) initiative will be included in the utilities privatization (UP) package.
- **Prairies Family Housing –** Consists of 1,382 Wherry housing units constructed in the 1950s. This area is being renovated and expanded as a housing privatization initiative. The HP package includes service laterals, while the Government has retained the utility mains and will include those mains in the UP package.
- **Woods Housing –** Constructed in the 1970s, there are 350 units located in Woodland Hills. This housing complex has been privatized except for the utility mains that will be included in this UP package.
- **Green Acres/Pine Estates –** Consist of 416 units built in 1973. A HP initiative is underway. As with the other housing areas, utility mains will be excluded from HP and included in the UP package.

J2.1.6 Geographically Separated Units

Geographically separated units (GSUs) are summarized below:

- **Huffman Radar Site:** located approximately ¼ mile off the south side of Area C on Huffman Road.
- **Kauffman Avenue 69KV Switching Station:** situated sort of between Areas A and B located just across Highway 444/Kauffman Avenue from Area A and approximately ¼ mile from the southeast end of Area A.

J2.2 Natural Gas Distribution System Description

J2.2.1 Natural Gas Distribution System Fixed Equipment Inventory

The Wright-Patterson AFB natural gas distribution system consists of all appurtenances physically connected to the distribution system from the point in which the distribution system enters the Installation and Government ownership currently starts to the point of demarcation, defined by the Right of Way. The system may include, but is not limited to, pipelines, valves, regulators, meters, and cathodic protection. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description

and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the gas distribution system privatization:

- Vehicular compressed natural gas (CNG) filling stations.
- Natural gas lines traversing the Base that are not owned by the Base.
- Natural gas service laterals, meters and service connections serving the housing areas.

J2.2.1.1 Description

Vectren Natural Gas Company (Vectren) supplies odorized natural gas to Wright-Patterson AFB via a Government-wide supply contact administered by Defense Energy Support Center (DESC) through 14 metered delivery points located throughout the Base. A regulator, meter and valve station is located at each delivery point. The equipment at each delivery point is owned, operated and maintained by Vectren. In addition to the normal natural gas requirements on Base, the natural gas system also supplies fuel to two compressed natural gas (CNG) facilities for the Base's CNG vehicle fleet. The CNG stations are located in Areas B and C but are specifically excluded from Utility Privatization.

Gas distribution pressure ranges from 45 pounds per square inch gauge (psig) to 10 psig.

The gas is distributed throughout the Base through approximately 40 miles of underground pipelines. These lines are owned, operated and maintained by the Base, except for some privatized housing service laterals. Many of these lines are polyethylene (PE) pipe with tracer wire. The balance of the pipe is coated and wrapped steel and originally protected by a cathodic protection system utilizing sacrificial anodes. Pipe is typically buried at a minimum of three to four feet below the surface. When it is necessary to add or replace lines, due to new construction or repair, PE pipe is usually the material of choice.

According to Base personnel, the Wright-Patterson AFB gas distribution system has undergone significant replacement projects in the last 20 to 30 years, which has resulted in an above average gas system.

A very generalized system assessment was conducted with Base engineering, operation and maintenance personnel. For assessment purposes, the Base was subdivided into 14 areas, generally around delivery/meter points and areas of similar age and condition. Base-wide, the coated and wrapped steel pipe system was protected by a cathodic protection system, which utilizes sacrificial anodes unless otherwise noted. Pipe failures do not seem to be a problem in any of the areas. Summaries of the condition assessments are as follows:

Meter Point (MP) 1, serving the northern portion of Area B, was the oldest gas system on Base but has undergone significant upgrades. The coated and wrapped steel pipe was

originally installed around 1943 and is thought to be in average to poor condition. Over half of the pipe downstream from this meter point was replaced around 2001. The older plug valves in this area of the system are considered to be in average to poor condition. The 10-psig distribution system pressure is adequate and serves facilities primarily utilized for research. The gas system served by this meter point is an isolated system and is not connected to distribution piping served by other delivery points.

MP 2 is also located in the northern portion of Area B. It serves an incinerator and a recently constructed occupational health clinic. The coated and wrapped steel pipe and plug valves were installed in 1947 and are thought to be in average condition. Approximately 40 percent of the pipe has been replaced in the last 15 years. This section of the gas system is also isolated from other sections of the distribution system.

The third delivery point, MP 3, is located in the north central portion of Area B and serves research facilities. Much of this system was replaced in 1985 and consists of PE pipe and plug valves, which are considered to be in good condition. Piping was installed with tracer wire and warning tape. The distribution pressure in this portion of the system is 30 psig. This is also an isolated gas system. A major replacement project occurred in 2002 replacing lines along Skyline Drive.

MP 4 is located in Area B and serves the United States Air Force Museum at Wright Field. The coated and wrapped steel pipe and plug valves were installed in 1970 and are considered to be in average condition. The gas lines were recently extended to serve an additional hangar facility at the museum.

MP 5 serves The Prairies at Wright Field housing area, located west of Area B. The PE pipe and plug valves were installed in 1984 and upgraded during 2003 in some areas as part of the housing privatization initiative. Tracer wire and warning tape are in place; piping is considered to be good condition. This is a looped system and pressure is not a problem. A normally closed Vectren valve is located on the north side of the housing area and provides an emergency backup source of gas for The Prairies housing area.

MP 6 serves only the school in The Prairies housing area with three-inch PE pipe.

Delivery point MP 7 (National Road Metering Station) is located on the east side of Area B and serves facilities located along the east boundary of Area B. The coated and wrapped steel pipe and plug valves were installed in 1950 and are considered to be in average condition. It is estimated that 40 percent of the pipe has been replaced in the last 15 years. As pipe is replaced, it is replaced with PE piping with tracer wire and warning tape. This is another isolated system consisting of several dead-end lines and one gas source serving primarily office buildings. A new childcare center and Air Force Institute of Technology building are also served by this sub-system.

The eighth delivery point (MP 8) serves The Woods at Wright Field housing area, located east of Area B and south of Area C. The PE pipe and plug valves were installed in 1970 and are considered to be in average condition. No significant sections of pipe have been replaced in the last 15 years. The regulators are considered to be in average condition. This is a looped system and pressure is not a problem. During the installation of the PE pipe, tracer wire and warning tape were not installed which makes locating the pipe extremely difficult and increases the chances of line damage when excavation is taking place in this area.

MP 9 is located on the north edge of The Woods housing area and serves only a heat plant, located near the meter point. The coated and wrapped steel pipe and plug valves were installed in 1991 and are considered to be in excellent condition. The system pressure at the heat plant is 35 psig. The cathodic protection for this section of pipe was also installed in 1991.

MP 10 is located on the south boundary of Area A and serves Area A. The coated and wrapped steel pipe and plug valves were originally installed in 1970 and are considered to be in average condition. An estimated 25 percent of the pipe has been replaced in the past 15 years. The gas distribution system in this area primarily serves office buildings in the west portion and MFH in the east portion of Area A. Gas lines from Vectren MP 11, serving Area C, are also connected to this distribution system in the Area A Housing. A recent project was completed to replace a section of 4-inch steel piping with 6-inch piping and an upgrade of the regulators serving this section resulting in reduced operational problems. A section line along Communications Blvd. was replaced in 2000. Most recently, the entire system in the housing area known as The Bricks was replaced in 2003 with PE pipe; tracer wire and warning tape was also installed.

MP 11 is located near Gate 35C on the east side of Area C and serves Area C. The PE pipe and plug valves were installed in 1980 and are considered to be in good condition. The distribution pressure in this area of the system is 15 psig and serves a combination of office, industrial, and flight-line hanger facilities. The distribution system in Area C is a looped system and is also interconnected with the distribution system serving Area A, which provides a second source of gas for Area C. No facilities are currently being planned which will significantly increase the gas demand in Area C.

Delivery point MP 12 is located along the east boundary of Area C and serves the West Ramp Area. In 1993, approximately 3,500 feet of 6-inch PE pipe was installed from delivery point 12, along the east boundary of Area C and into the West Ramp area. The pipe is considered to be in good condition and was installed with tracer wire and warning tape. This is a radial system that is isolated from other systems serving the Installation.

MP 13 is located along the east boundary of the Kitty Hawk Area, which is in the northeast portion of the Installation. The coated and wrapped steel lines date back to 1943 and are in poor condition. The majority or the pipe in this area was replaced in 1999/2000. This portion of the gas system is isolated from the other distribution systems and serves facilities that range from office to small industrial type facilities.

MP 14 is located at the southwest corner of the Kitty Hawk Area and serves only one heat plant. The 8-inch PE line was installed in 1994 with tracer wire and warning tape and is considered to be in excellent condition. This system is isolated from the other distribution systems.

There is currently an active cathodic protection program at the Base. This program is cognizant of many problems in the system such as inadequate insulation unions and flanges, PE pipe sections installed between metal pipes without jumper wires, and old anode beds that cannot be located. The gas distribution system has both sacrificial anode and impressed current cathodic protection systems. Generally, the sacrificial anode systems are associated with steel pipe. Installation technicians are more concerned about sections of

steel pipe in Area B, primarily because soil conditions are more corrosive than in Areas A and C.

There is no Supervisory Control and Data Acquisition (SCADA) system or Energy Monitoring and Control System (EMCS) used to be included in the natural gas privatization package.

GSUs

There are no natural gas components to be privatized at either the Huffman Radar Site or the Kauffman Avenue Switching Station.

J2.2.1.2 Inventory

Table 1 provides a general listing of the major natural gas distribution system fixed assets for the Wright-Patterson AFB natural gas distribution system included in the privatization package.

TABLE 1
Fixed Inventory
Natural Gas Distribution System – Wright-Patterson AFB

Component	Size	Quantity	Unit	Approximate Year of Construction
MAIN BASE				
Pipe				
Black Steel, C&W	<2″	2,283	LF	1943
Black Steel, C&W	<2″	14,420	LF	1965
Black Steel, C&W	<2″	455	LF	1970
Black Steel, C&W	<2″	537	LF	1980
Black Steel, C&W	2″	595	LF	1943
Black Steel, C&W	2″	11,660	LF	1965
Black Steel, C&W	2″	11,123	LF	1980
Black Steel, C&W	2-2½″	190	LF	1943
Black Steel, C&W	2-2½″	1,680	LF	1965
Black Steel, C&W	2-2½″	1,960	LF	1980
Black Steel, C&W	3″	12,958	LF	1965
Black Steel, C&W	3″	8,095	LF	1980
Black Steel, C&W	3″	2,290	LF	2000
Black Steel, C&W	4″	3,231	LF	1943
Black Steel, C&W	4″	1,380	LF	1965
Black Steel, C&W	4″	4,660	LF	1980
Black Steel, C&W	6″	670	LF	1943
Black Steel, C&W	6″	5,771	LF	1965
Black Steel, C&W	6″	4,520	LF	1970
Black Steel, C&W	6″	12,330	LF	1980
HDPE	<2″	5,094	LF	1980
HDPE	<2″	1,335	LF	2000
HDPE	2″	2,360	LF	1976
HDPE	2″	9,870	LF	1980

Component	Size	Quantity	Unit	Approximate Year of Construction
HDPE	2″	1,605	LF	2000
HDPE	2″	870	LF	2003
HDPE	2½″	315	LF	1980
HDPE	3″	5,288	LF	1980
HDPE	3″	1,405	LF	2000
HDPE	3″	8,960	LF	2003
HDPE	4″	8,546	LF	1980
HDPE	4″	3,028	LF	1999
HDPE	4″	3,440	LF	2000
HDPE	4″	80	LF	2003
HDPE	6″	11,538	LF	1980
Services and Valves				
Regulators (Services)	2″	13	EA	1943
Regulators (Services)	2″	34	EA	1965
Regulators (Services)	2″	2	EA	1970
Regulators (Services)	2″	160	EA	1980
Regulators (Services)	2″	1	EA	2000
Regulators (Services)	2″	1	EA	2003
Plug Valves (Services)	2″	26	EA	1943
Plug Valves (Services)	2″	68	EA	1965
Plug Valves (Services)	2″	4	EA	1970
Plug Valves (Services)	2″	320	EA	1980
Plug Valves (Services)	2″	2	EA	2000
Plug Valves (Services)	2″	2	EA	2003
Main Valves – Steel	<2″	46	EA	1943
Main Valves – Steel	<2″	288	EA	1965
Main Valves – Steel	<2″	9	EA	1970
Main Valves – Steel	<2″	11	EA	1980
Main Valves – Steel	2″	6	EA	1943
Main Valves – Steel	2″	116	EA	1965
Main Valves – Steel	2″	111	EA	1980
Main Valves – Steel	2½″	2	EA	1943
Main Valves – Steel	2-2½″	16	EA	1965
Main Valves – Steel	2-2½″	20	EA	1980
Main Valves – Steel	3″	52	EA	1965
Main Valves – Steel	3″	32	EA	1980
Main Valves – Steel	3″	9	EA	2000
Main Valves – Steel	4″	13	EA	1943
Main Valves – Steel	4″	5	EA	1965
Main Valves – Steel	4″	19	EA	1980
Main Valves – Steel	6″	1	EA	1943
Main Valves – Steel	6″	12	EA	1965
Main Valves – Steel	6″	9	EA	1970
Main Valves – Steel	6″	25	EA	1980
Main Valves - HDPE	<2″	102	EA	1980

Component	Size	Quantity	Unit	Approximate Year of Construction
Main Valves - HDPE	<2″	27	EA	2000
Main Valves - HDPE	2″	24	EA	1976
Main Valves - HDPE	2″	98	EA	1980
Main Valves - HDPE	2″	16	EA	2000
Main Valves - HDPE	2″	9	EA	2003
Main Valves - HDPE	2½″	3	EA	1980
Main Valves - HDPE	3″	21	EA	1980
Main Valves - HDPE	3″	6	EA	2000
Main Valves - HDPE	3″	36	EA	2003
Main Valves - HDPE	4″	34	EA	1980
Main Valves - HDPE	4″	12	EA	1999
Main Valves - HDPE	4″	14	EA	2000
Main Valves - HDPE	6″	23	EA	1980
Meters				
Meters		19	EA	1965
MILITARY FAMILY HOUSING				
THE WOODS				
Black Steel, C&W	<2″	310	LF	1970
Black Steel, C&W	2″	3,980	LF	1970
Black Steel, C&W	2½″	2,250	LF	1970
Black Steel, C&W	3″	3,106	LF	1970
Black Steel, C&W	4″	2,900	LF	1970
Main Valves – Steel	<2″	6	EA	1970
Main Valves – Steel	2″	39	EA	1970
Main Valves – Steel	2½″	22	EA	1970
Main Valves – Steel	3″	12	EA	1970
Main Valves – Steel	4″	12	EA	1970
BRICK QUARTERS				
HDPE	2″	1,870	LF	2003
HDPE	3″	8,960	LF	2003
Main Valves - HDPE	2″	19	EA	2003
Main Valves - HDPE	3″	36	EA	2003
PINE ESTATES				
Black Steel, C&W	<2″	585	LF	1945
Black Steel, C&W	2″	2,135	LF	1945
Black Steel, C&W	4″	4,112	LF	1945
Main Valves – Steel	<2″	12	EA	1945
Main Valves – Steel	2″	21	EA	1945
Main Valves – Steel	4″	16	EA	1945
THE PRAIRIES				
HDPE	<2″	438	LF	1984
HDPE	2″	24,538	LF	1984
HDPE	2″	8,200	LF	2003
HDPE	3″	6,225	LF	1984
HDPE	4″	1,260	LF	1984

Component	Size	Quantity	Unit	Approximate Year of Construction
HDPE	4″	2,840	LF	2003
HDPE	6″	1,750	LF	1984
Main Valves - HDPE	<2″	9	EA	1984
Main Valves - HDPE	2″	245	EA	1984
Main Valves - HDPE	2″	82	EA	2003
Main Valves - HDPE	3″	25	EA	1984
Main Valves - HDPE	4″	5	EA	1984
Main Valves - HDPE	4″	11	EA	2003
Main Valves - HDPE	6″	4	EA	1984

Notes:
C&W = coated and wrapped
EA = each
HDPE = polyethylene
LF = linear feet

J2.2.2 Natural Gas Distribution System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools potentially available in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 2
Spare Parts
Natural Gas Distribution System – Wright-Patterson AFB

Item	Description	Remarks
Fusion Couplings	Various sizes	Quantity Varies
Misc. Valves & Fittings	Various sizes	Quantity Varies
Poly Pipe	Various sizes	Quantity Varies

TABLE 3
Specialized Vehicles and Tools
Natural Gas Distribution System – Wright-Patterson AFB

Description	Quantity	Location
None		

J2.2.3 Natural Gas Distribution System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Natural Gas Distribution System – Wright-Patterson AFB

Quantity	Item	Description	Remarks
1	Utility Maps	Base Natural Gas Lines, "Vision" Graphical Information System 2002	Electronic
1	Utility Maps	Base Natural Gas Lines, 1997, 1''-400'	Sheets 1-5
1	Utility Maps	The Prairies at Wright Field, Utility Construction Drawings, 2002	Electronic
1	Report	Annual Cathodic Protection Report, 2003	One Volume
1	Report	Annual Natural Gas Safety Inspection Report, 2003	One Volume
1	Planning Document	General Plan	One Volume
1	Planning Document	Comprehensive Plan	Multiple Volumes

J2.3 Specific Service Requirements

The service requirements for the Wright-Patterson AFB natural gas distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Wright-Patterson AFB natural gas distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- IAW Condition C of Attachment 1 to the ROW, the Contractor shall follow the Base digging permit process. The Contractor will be required to mark his own utilities and will be responsible for initiating, officiating, and tracking digging permits for his own utilities and shall obtain all necessary authorizations, permits and line locates prior to performing any excavations on Base. The Contractor will provide not less than 2 and not more than 5 working days notice (emergencies being excepted) of any needed excavations to the 88th ABW/CE and to said Utilities Privatization Administrative Contracting Officer so the location of underground utilities may be located and marked by the applicable utility owner. The applicable utility owner must mark their utilities as requested within 48 hours of receipt of request for non-emergency work.
- The Contractor shall support the Base digging permit process by routinely accepting and promptly processing digging permit requests which may impact on the integrity of the

Contractor's utility system and/or the safety of the requestors. The Contractor shall be a participant of the Base digging permit process and shall attend any meetings called in support of the process. Contractor shall be responsible to locate and mark their utilities in the affected areas.

- Because of the critical nature of many WPAFB mission requirements, response to natural gas emergencies must be immediate. The Contractor must have a first response on the scene not later than 10 minutes after notification during duty hours and not later than 1 hour after notification during non-duty hours.

- The Contractor's representative that responds to emergency service requests shall be knowledgeable of the utility system and the Contractor's Service Interruption/Contingency Plan. The representative shall be able to assess damages and estimate the time it will take to make temporary or full-service repairs. In accordance with Paragraph H.6, Rights of the Government to Perform Function with Its Own Personnel, the Government reserves the right to substitute or supplement the Contractor's efforts during emergency situations where the Contractor's failure or inability to perform is beyond the Contractor's control and without the Contractor's fault or negligence. In this situation, the Contractor would not be held responsible for costs incurred by the Government. However, the Contractor could be held financially responsible if the Government substitutes or supplements the Contractor's efforts during emergency situations and the Contractor's failure or inability to perform was the result of the fault or negligence of the Contractor.

- Leak detection surveys shall be performed IAW 49 CFR 192, Paragraph 723. WPAFB shall be considered a business district for the purposes of leak detection requirements. The Contractor shall submit copies of all submittals and correspondence to federal, state, and local agencies concerning leak detection testing. Copies shall be provided within 5 working days following submittal to the respective agency.

- The Contractor will be required to conduct odorization testing of the natural gas system IAW Department of Transportation (DOT) Final Rule RSPA-02-13208, §192.625 Odorization of gas.

- The Contractor shall provide monthly meter reading reports IAW Paragraph J2.6. The Contractor shall keep a meter book(s) and record monthly consumption and demand (if applicable) for each meter being read. The Contractor shall coordinate with the Government to determine the format of the meter books to be submitted.

- When new meters are installed, to include meters installed for temporary service connections, the Contractor shall include with the meter reading report a report identifying the new meters installed during the prior month. The Contractor shall coordinate with the Government to determine the format of the report to be submitted.

- Upon reasonable request and with reasonable notice from the Civil Engineers, the Contractor shall provide escorted tours to provide instruction and demonstration of the natural gas distribution system operations, maintenance and construction. The natural gas distribution system includes valves, gauges, pipes, and other natural gas distribution system devices.

- IAW Paragraph C.5.1.3, and in compliance with Base architectural standards, new and renewal distribution piping shall normally be installed using the most economical method unless otherwise prohibited by the Government. Excavation of paved surfaces is prohibited without consultation and approval from the Base Civil Engineer.
- IAW Paragraph C.9, Coordination of Work, the Contractor shall coordinate scheduled outages using the Civil Engineer Outage Form AF103.
- In addition to Section 8 of the ROW, the utility contractor (grantee) shall repair at no cost to the Government any utilities damaged by other contractors or Government organizations because Contractor utilities were improperly marked by the Contractor. Property damaged by the contractor in the conduct of his business shall be corrected in accordance with ROW Section 8.
- IAW Section 12 of the ROW, the Contractor is responsible for all supporting utilities that may be required to own, operate and maintain the utility system being privatized. For example, electricity is needed to power substation lighting. Supporting utilities are defined as the supply of electricity, natural gas, water, or wastewater collection, and any infrastructure or materials necessary to connect to the supply of electricity, natural gas, water, or wastewater collection. The Contractor shall coordinate with the WPAFB Civil Engineers and the Contracting Officer for any supporting utilities to be provided by the Government.
- The Contractor shall enter into a Memorandum of Understanding (MOU) with the Base Fire Department for fire protection of all facilities included in the purchase of the utility. The MOU shall be completed during the transition period and a copy provided to the Contracting Officer.
- The Contractor shall abide by Base fire protection requirements. The utility system purchased by the Contractor includes facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.
- IAW Paragraph C.9.8, Exercises and Crisis Situations Requiring Utility Support, the Contractor shall provide support as directed by Base Civil Engineer for exercises and crisis situations.
- The Contractor shall ensure that employees understand, implement and enforce Force Protection Condition (FPCON) requirements specified in AFI 10-245. The Contractor is advised that FORCE PROTECTION conditions vary and that these changes may cause delays in access to WPAFB. These conditions are outlined in the WPAFB FPCON Checklist. This checklist will be available in the technical library. The Contractor will plan accordingly to provide uninterrupted support. Compliance with and staffing in support of FORCE PROTECTION condition changes shall not result in service charge adjustments to the contract.
- IAW Section 8 of the ROW, the Contractor shall maintain existing security mechanisms (i.e., locks, fences) to protect the utility systems. The security mechanisms should

prevent tampering and sabotage. Should the Contractor become aware of any suspicious incident, security breach or act of sabotage at or against the utility system, or any of its associated facilities, they will immediately contact the Security Police Squadron and the Civil Engineers.

- Due to heightened security concerns on military installations, all Contractor and subcontractor personnel who must enter WPAFB to perform this contract must undergo a background check. Background checks will be conducted using the following information: name, driver's license number, social security number, and date of birth. These procedures are considered permanent. Any Contractor or subcontractor employee that does not consent to this background investigation will not be allowed access to WPAFB. Any derogatory information resulting from the investigation, or which otherwise becomes known to the contracting officer, may also result in such individuals being prevented from entering the installation. However, nothing in this requirement shall excuse the Contractor from proceeding with any resulting contract as required.

- The Contractor shall ensure their employees, and those of their subcontractors, have the proper credentials allowing them to work in the United States. Employees must have valid Social Security Cards. Non-US Citizens must have current and valid permission from the Bureau of Immigration and Naturalization. Persons found to be undocumented or illegal aliens will be remanded to the proper authorities. The Contractor shall not be entitled to any compensation for delays or expenses associated with complying with the provisions of this requirement. Contractor personnel and their subcontractors must identify themselves as Contractors or subcontractors during meetings, telephone conversations, in electronic messages, or correspondence related to this contract. Contractor occupied facilities on WPAFB such as offices, separate rooms, or cubicles must be clearly identified with Contractor-supplied signs, name plates or other identification, showing that these are work areas for Contractor or subcontractor personnel.

- The Contractor shall notify the WPAFB (Safety Office) and the Contracting Officer, or a designated Government Representative (GR) within one (1) hour of all mishaps or incidents at or exceeding $2,000 (material + labor) in damage to DOD property or contractor-owned property located on WPAFB. This notification requirement shall also include physiological mishaps/incidents. A written or e-mail copy of this mishap/incident notification shall be sent within three calendar days to the GR, who will forward it to the Safety Office. For information not available at the time of initial notification, the Contractor shall provide the remaining information not later than 20 calendar days after the mishap, unless extended by the Contracting Officer. Mishap notifications shall contain, as a minimum, the following information:

    a) Contract, Contract Number, Name and Title of Person(s) Reporting

    b) Date, Time and exact location of mishap/incident

    c) Brief Narrative of mishap/incident (Events leading to accident/incident)

    d) Cause of mishap/incident, if known

    e) Estimated cost of mishap/incident (material and labor to repair/replace)

f) Nomenclature of equipment and personnel involved in mishap/incident

g) Corrective actions (taken or proposed)

h) Other pertinent information.

- If requested by Government Personnel or designated Government representative, the Contractor shall immediately secure the mishap scene/damaged property and impound pertinent maintenance and training records, until released by the Safety Office. Also, the Contractor and their subcontractors shall cooperate fully and assist Government personnel until the investigation is finalized and closed out. Safety requirements listed in this package that do not relate to the Contractor's operations or services shall be considered self-deleting as mutually agreed by the Contractor and the Contracting Officer.

- The Contracting Officer is the only individual authorized to incur Government obligations and to make changes to contracts. The Administrative Contracting Officer (ACO) may make certain obligations and changes as provided by the Federal Acquisition Regulation part 42.302 (and supplements) or as may be specifically designated in writing by the Procuring CO. The Contracting Officer's Technical Representative (COTR), if designated, is strictly limited to the authority described in the designation letter executed by the CO. The Installation Commander's duly authorized representative is strictly limited to the tasks described and under no circumstance is authorized to incur additional obligations on behalf of the Government. The DESC is the procuring agent, and after appropriate post-award contract management transition, the WPAFB Contracting Directorate shall assume the procuring and administration contracting authority.

- IAW Condition F of Attachment 1 to the ROW, the Contractor shall be responsible for grounds maintenance (except for grass cutting) of all areas within the boundaries of the ROW in accordance with Base standards. Contractor will not be responsible for ROW disturbances caused by the AF or a third party.

- IAW ROW, the Contractor shall not deliberately injure or kill protected species of wildlife (i.e., non-domesticated animals) without permission from the Contracting Officer, or other representative(s) as designated by the Contracting Officer.

- IAW Condition J of Attachment 1 to the ROW, the provisions of ROW Sections 15, 17 and 18 also cover sites identified under the Resource Conservation Recovery Act (RCRA) Corrective Action program.

- The Contractor shall not perform alterations to any building or structure deemed to be eligible or potentially eligible for placement on the National Register of Historic Places until approved by said officer.

J2.4 Current Service Arrangement

WPAFB purchases natural gas via a Government-wide supply contract administered by DESC. The current supply contractor is Vectren Natural Gas Company. Vectren delivers odorized natural gas to WPAFB at 14 metered delivery points. At these delivery points, the

natural gas pressure is regulated and metered. The delivery points with the pressure regulator-meter stations are owned and operated by Vectren. Since WPAFB central heating plants use coal as their primary fuel, it is difficult to correlate gas consumption with climatic changes. The following table characterizes gas consumption for fiscal year (FY) 2002 and 2003.

FY 2002 Gas Consumption	MCF	FY 2003 Gas Consumption	MCF
Peak	52,507.9 for October	Peak	70,569.4 for January
Low	30,199.3 for April	Low	27,368 for April
FY 2002 Total	539,348.5	FY 2003 Total	586,935.5

J2.5 Secondary Metering

J2.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J2.6 below.

TABLE 5
Existing Secondary Meters
Natural Gas Distribution System – Wright-Patterson AFB

Facility No.	Location
10262	Base Restaurant
10830	Medical Center Restaurant
10831	Fisher House
20011	Base Restaurant
20233	Toy Checkout
20234	Spirit Hall
20240	PM Swimming Pool
20484	Aviation Hall of Fame
20630	Child Development Center
20675	Medical Center
26568	Front of Chapel #3
26568	Side of Chapel #3
30153	Aero Club
30893	Twin Base Golf Course - Outside
30893	Twin Base Golf Course – Mechanical Room
31226	Enlisted Club – Outside
31226	Enlisted Club – Mechanical Room
31250	Commissary – Medical Center
31250	Burger King

J2.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3.3 and J2.6 below.

TABLE 6
New Secondary Meters
Natural Gas Distribution System – Wright-Patterson AFB

Building Number	Facility
N/A	CNG Stations (2)

J2.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. **Invoice** (IAW G.2): The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: 88 ABW/FMI
   Address: 1450 Littrell Rd
   WPAFB, OH 45433-5209
   Phone number: (937) 257-7497

2. **Outage Report**: The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: 88 ABW/CEMM
   Address: 1450 Littrell Rd, Bldg 22, Area C
   WPAFB, OH 45433-5209
   Phone number: (937) 904-2370

3. **Meter Reading Report**: The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 5th of each month for the previous month. Meter reading reports shall be submitted to:

   Name: 88 ABW/FMI
   Address: 1450 Littrell Rd
   WPAFB, OH 45433-5209
   Phone number: (937) 257-7497

4. **System Efficiency Report:** If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to:

   Name: 88 ABW/CEMM
   Address: 1450 Littrell Rd, Bldg 22, Area C
   WPAFB, OH 45433-5209
   Phone number: (937) 904-2370

J2.7 Energy Saving Projects

There are currently no demand side management (DSM) or energy-saving performance contract (ESPC) arrangements that would have any significant effect on the natural gas distribution system.

J2.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the boundaries of Wright-Patterson AFB proper and on easements/rights-of-way granted to the Air Force.

J2.9 Off-Installation Sites

There are no Government-owned natural gas components located at either the Huffman Radar Site or the Kauffman Avenue Switching Station GSUs.

J2.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
Service Connections and Disconnections
Natural Gas Distribution System – Wright-Patterson AFB

Location	Description
Housing Areas	As stated earlier, all housing area natural gas service laterals are excluded from this package and are included in the ongoing Housing Privatization (HP) initiative. Associated points of demarcation are described in the ROW documents. However, as the HP initiative evolves with demolition, new construction, etc., these points of demarcation could change.

J2.11 Government Recognized System Deficiencies

While the natural gas distribution system is generally adequate to meet existing needs and provide for some expansion, several segments of distribution line and valves are old and

deteriorated and require replacement and upgrading. A specific area of concern is Area B where the soil is more corrosive and cathodic protection components are deteriorated. The cathodic protection program/system has a deficiency associated with the lack of reference data (maps and listings) of the sacrificial anode components. Those projects that have some form of programming action underway are listed in **Table 8;** the latest information on these projects will be available in the technical library.

TABLE 8
System Deficiencies
Natural Gas Distribution System – Wright-Patterson AFB

Project/Work Request Number	Project Description	Program Amount ($000)
None		

J2.12 Right of Access to the Utility System

Exhibit A—Map of Premises

Exhibit A map or maps from the Base Comprehensive Plan or other drawings show the known locations of the utility system and are available at the Base Civil Engineering Office. Portions of the utility system may not be fully shown on the map or maps. Any such failure to show the complete utility system on the map or maps shall not be interpreted as that part of the utility system being outside the Premises. The Premises are co-extensive with the entire linear extent of the utility system sold to Grantee, whether or not precisely shown on the map or maps.

Exhibit B – Description of Premises

B.1. General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation:

Utility System Description:

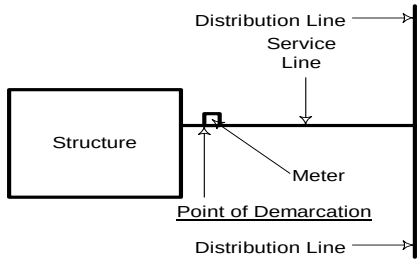
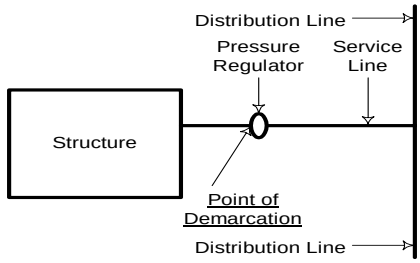
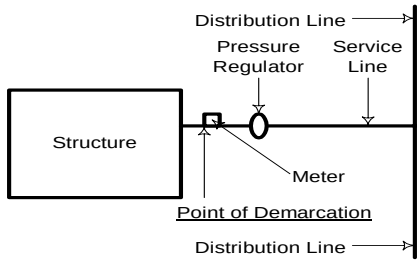
The utility system may be composed of, without limitation, the district regulator stations, distribution mains, valves, valve boxes, service lines, regulators, cathodic protection system components including but not limited to anodes and test stations, service lines, and meters used to deliver natural gas to end users on the Installation.

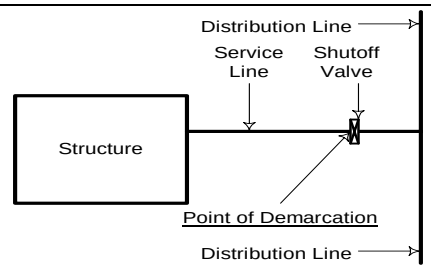
Lateral Extent of Utility System Right-Of-Way:

26-feet-wide, extending 13 feet on each side of the utility system, as installed.

Utility System Points of Demarcation:

The point of demarcation is defined as the point on the utility system where ownership changes from the utility system owner to the facility owner. The table below identifies the type and general location of the point of demarcation with respect to the facility for each scenario

Point of Demarcation (POD)	Applicable Scenario	Sketch
POD is the down stream side of the natural gas meter.	Natural gas service to the building is metered.	
POD is the down stream side of the pressure regulator.	Natural gas service to the building is regulated but not metered.	
POD is the down stream side of the closest apparatus to the exterior of the facility.	More than one apparatus is connected to the service line feeding the facility.	

Point of Demarcation (POD)	Applicable Scenario	Sketch
POD is the closest shutoff valve to the exterior of the building.	No meter or regulator exists at the facility.	

UNIQUE POINTS OF DEMARCATION:

The following table lists anomalous points of demarcation that do not fit any of the above scenarios.

Building No.	Point of Demarcation (POD) Description
Vectren – owned meter and regulator stations.	Points of demarcation will be the first valve downstream of the regulator/meter.
Government-owned/retained compressed natural gas vehicle filling stations.	Point of demarcation will be the downstream side of the service line cutoff valve.
Family Housing - All	Point of demarcation will be the point of connection between service laterals and mains.

B.2. DESCRIPTION OF RESTRICTED ACCESS AREAS:

Description	Facility No.	State Coordinates	Other Information
Gas Meter Building	20078		

Exhibit C – Environmental Baseline Survey

The Air Force has determined that it is not required to conduct an EBS in regard to the sale of this utility system.