

TRI-STATE COMMERCE PARK DEMOGRAPHICS

ACREAGE:

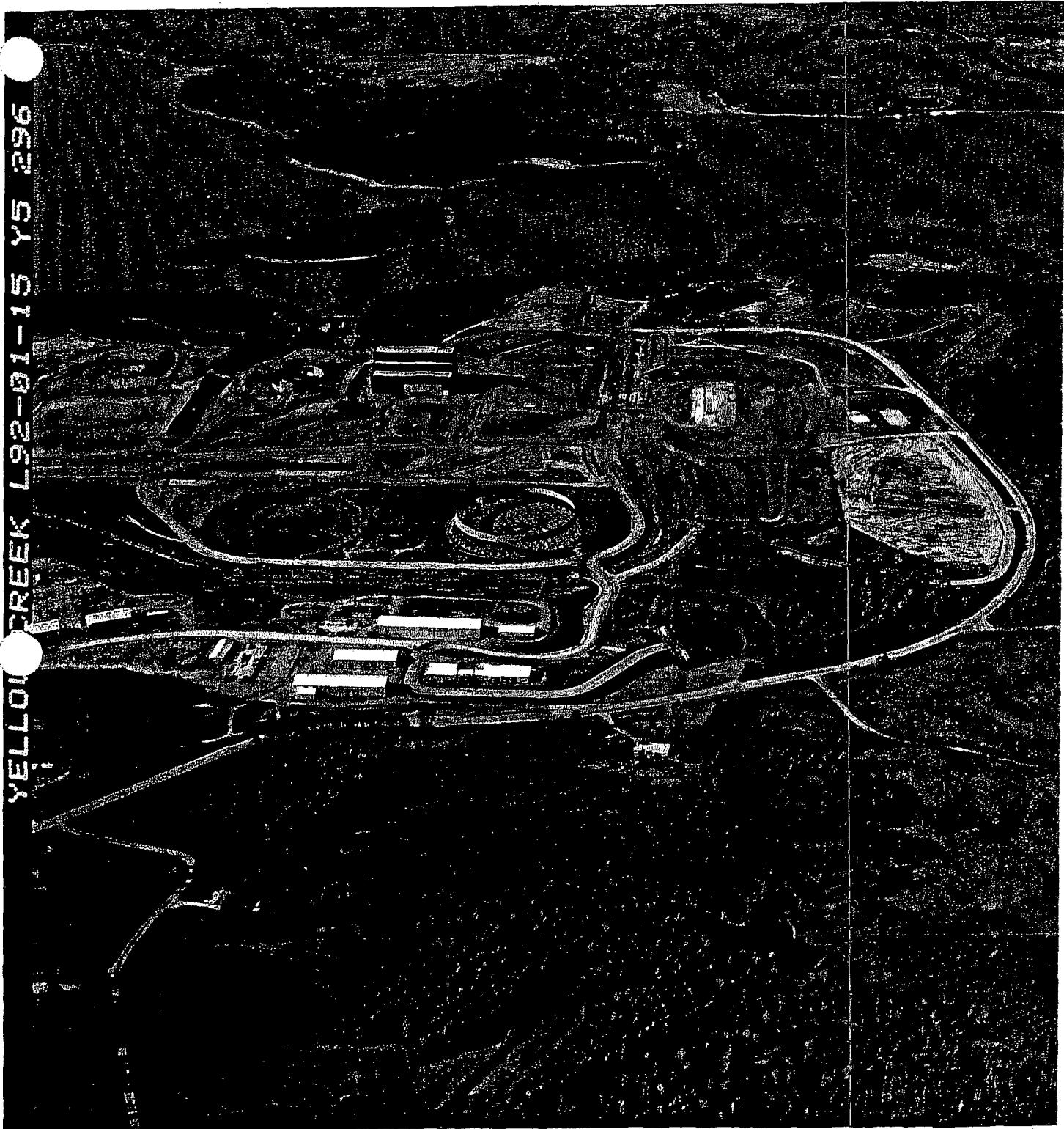
State of Mississippi (developed)	1,168 acres
State of Mississippi (undeveloped)	2,416 acres
Private Property Owners	284 acres
TOTAL ACREAGE	3,868 ACRES

SQUARE FOOTAGE:

Air conditioned square footage	618,000 sq. ft.
Non-air conditioned square footage	205,000 sq. ft.
TOTAL SQUARE FOOTAGE	823,000 SQ. FT.



YELLOW CREEK L92-01-15 Y5 296



Overview of Existing Site and Facility Conditions

Regional Setting

Tri-State Commerce Park is located in Tishomingo County in northeast Mississippi near the Tennessee and Alabama borders. The nearest community is the town of Iuka, located approximately 10 miles south of the site. The Park is accessible from several major southeastern cities including Memphis, 110 miles to the west; Florence-Muscle Shoals metro area, 47 miles to the east; Huntsville, 106 miles to the east; Birmingham, 143 miles to the southeast; Nashville, 147 miles to the northeast; and Jackson, 168 miles to the southeast. Corinth, Mississippi with a 1990 population of 11,820 is located 30 miles west of the site.

The region surrounding Tri-State Commerce Park today remains largely rural in character with a very low population density. Iuka, Mississippi, the nearest town, has a population of about 3,000. The vehicular access to the site is via two secondary roads (CR 989 and CR 321) off Mississippi Highway 25.

General Site Description and Immediate Environs

Tri-State Commerce Park encompasses a total land area of approximately 4,000 acres located on a peninsula between Yellow Creek embayment and Pickwick Lake on the Tennessee River. It also includes a "control zone" consisting of an area of 400 acres of surface water in the Yellow Creek embayment.

The main site consists of 1,168 acres of which about 385 acres remain largely undeveloped forest land and permanent open space. The site constitutes a major industrial complex including industrial buildings, warehouses, laboratory, medical, fire protection and security facilities, electrical substation, partially completed power generating facilities, and office complex. The total capital investment in site preparation, service

infrastructure, buildings and equipment, barge, rail and highway access is estimated to exceed \$2 billion.

The remaining approximately 2,800 acres located on the peninsula consists of a "buffer zone" acquired by the State of Mississippi in conjunction with the NASA projects. The existing land use in buffer zone is principally restricted to second growth forest, wildlife, and passive recreation uses. Local residents use the buffer area to a limited extent for hunting in season and outdoor recreation and camping during the summer months.

Pickwick Lake and Yellow Creek embayment are used for commercial navigation and recreation. Pickwick Lake is a TVA reservoir located on the main stem of the Tennessee River. The main stem of Pickwick Lake is part of the Tennessee River Navigation System providing barge access to the Mississippi and Ohio River Systems. Yellow Creek is a minor tributary of the Tennessee River. The Yellow Creek embayment is formed of backwaters from the Tennessee River and adjoins the Tennessee-Tombigbee Waterway, a navigable lock and dam barge waterway with a minimum nine foot channel depth. The waterway connects the Tennessee River System with the Gulf Coast and Intracoastal Waterway via the Port of Mobile, Alabama.

Existing Development Pattern and History of the Site

The existing pattern of development on the main site consists of various industrial structures scattered throughout the improved area interspersed with vacant developable parcels, as well as, forested and undevelopable vacant open space areas. This dispersed pattern of development is largely the result of the presence of significant physiographical constraints coupled with the dictates of the specialized functional requirements of the intended uses of the site in the past, i.e. nuclear power generation and solid fuel rocket motor production. The following briefly summarizes the history of the site, physiographical constraints, and the effects on the existing pattern of development.

THE TVA ERA: 1976-1982

The Tennessee Valley Authority (TVA) purchased the main site from local owners in the mid-1970's to site the Yellow Creek Nuclear Plant. Prior to 1978, the land use on the property and surrounding region was primarily in second growth forest and minor agriculture with some scattered rural single-family residential use. The nuclear plant was under construction between 1978 and 1982. In 1984, TVA officially canceled the project due to insufficient demand for additional electric power.

At the time of cancellation, TVA was in the process of completing several permanent structures including reactor vessel containment structure #1, cooling water intake structure, turbine building #1, a cooling tower base, and a backup power control center. A second major excavation for a reactor vessel containment structure and second cooling tower had been undertaken. In addition to the permanent structures under construction on site, numerous prefabricated metal buildings housing various functions (shops, warehousing, medical, construction offices, etc.) during construction were present. These structures were designed and constructed as temporary buildings for use only during the construction period and were slated for removal upon project completion. With the exception of the excavations for the second containment vessel and cooling tower, the permanent structures noted above and many of the temporary buildings remain in existence today and are significant site features affecting the overall existing pattern of development.

THE NASA ERA: 1990-1996

The site remained inactive between 1982 and 1990 when NASA contracted with Lockheed Missiles and Space Company (LMSC) to construct a government-owned, contractor-operated Advanced Solid Rocket Motor (ASRM) manufacturing and testing facility. During NASA's tenure, several former TVA buildings were substantially rehabilitated or modified including the turbine building, backup power center, and four temporary construction buildings. In addition to upgrading some existing TVA buildings,

NASA used several former TVA temporary buildings "as is" with only minor modifications and routine repair and maintenance. NASA also constructed an additional 22 new buildings or major structures throughout the main site area. These structures range from fully complete buildings ready for occupancy to shell buildings less than 50 percent complete at present. In October 1993, NASA terminated all project activity with construction at 80 percent completion and began closure. In 1994, NASA contracted with Thiokol Corporation to build booster nozzles for the Space Shuttle Program. This project was canceled by NASA in October, 1995.

PHYSIOGRAPHIC CONSTRAINTS

Tri-State Commerce Park is located on a peninsula roughly bisected by a high ridge line running north-south. The ridge line is heavily dissected by minor stream valleys and drainage ways. As one moves southward from the point of the peninsula, the main ridge line generally rises and broadens into a small plateau area near the southern property boundary line. The 1,168 acre main site or developed portion, including the former TVA and NASA facilities, largely encompasses the southwestern quadrant of the peninsula.

Physiographically, the main site can be divided into two relatively distinct areas: the higher plateau area located on the eastern and northern half of the main site; and, a lower, smaller terrace or bench located on the western portion of the site adjoining the Yellow Creek embayment. The bench or lower site area constitutes about one-quarter of the total main site area. The main site exhibits significant topographic relief. The higher plateau area and the lower bench are separated by steep slopes (in excess of 15 percent) and significant differences in elevation exceeding 100 feet in some areas. The western boundary of the main site and bench area generally may be characterized as a steeply sloping, mini-escarpment adjoining the Yellow Creek embayment. As is the general case on the peninsula, both the bench and plateau areas are somewhat dissected by minor stream valleys and drainage ways.

PHYSIOGRAPHICAL AND HISTORICAL DEVELOPMENT EFFECTS: SUMMARY

Both the TVA and NASA projects utilized the relatively level land found in the plateau and bench areas of the main site. TVA's partially completed power generating facilities were situated on the lower terrace with most of the temporary construction buildings separately located on the higher plateau area. During the NASA era, the area around the partially completed containment structure was backfilled, the second containment excavation filled, and the second cooling tower base excavation leveled and returned to grade. NASA began renovation and expansion of the turbine building and constructed five new major structures on the lower bench. Because the production of solid rocket fuel involves the mixing and casting of highly volatile chemicals, most of these buildings are of heavily reinforced construction and separated from each other by several hundred feet to reduce the risk of associated explosion hazard. In addition to using the former TVA temporary buildings, NASA also located several new structures on the upper plateau including the main assembly building (constructed partially on fill), quality assurance laboratory, main office complex and various ancillary buildings.

The existing pattern of development resulting from the combined effects of the site's physiographical constraints and historical uses may be described as a mixture of buildings of varying function, character, quality, condition, age, and stage of completion widely distributed across the site separated by forested areas, steep slopes, drainage and fill areas, and parcels of vacant developable and undevelopable land.

Site Infrastructure

The main site facilities consist of a network of roads, rail spur and multiple siding system, and barge terminal. Complete water, firewater, wastewater, natural gas, telecommunication and electrical distribution utility systems supply the area's infrastructure needs.

Extensive records documenting the above site infrastructure are maintained by the Site Management Staff including a complete inventory of design and "as built" drawings of the existing electric, natural gas, telecommunication, water, wastewater and firewater utility systems and transportation (including rail) infrastructure located at the Tri-State Commerce Park site. The Project Team in conjunction with the Site Management Staff reviewed these drawings and compiled a comprehensive list and index of critical site infrastructure drawings for future reference. Design drawings generally existed in both electronic and hard copy formats. Several "as built" drawings only existed as marked up hard copy. A full set of the critical "as built" site drawings was compiled and indexed.

The existing infrastructure drawings consisted of multiple panel sheets referenced to a site grid system. No composite drawings showing the overall design of each service system for the site as a whole were available. Dean McRea Engineering (Project Team member) prepared composite drawings for each infrastructure element documenting overall site system design.

Field inspections were conducted to verify "as built" site infrastructure drawings, assess the viability and capacity of existing systems, assess current conditions, analyze suitability for reuse, and identify any other constraints on reuse potential. The following briefly summarizes the Project Team's findings concerning the overall utility and transportation infrastructure conditions.

SITE TRANSPORTATION AND UTILITY INFRASTRUCTURE OVERVIEW

The site transportation system consists of internal paved and unpaved roads, rail spur and sidings, and barge facility and channel. Overall, the existing internal traffic circulation and road transportation system on site is well designed to provide adequate access throughout the main site; however, some existing segments of road are only paved with a base course and some improvements and upgrading will be required to meet the demands of new industry. The rail system has a substandard load bearing capacity and is designed to accommodate only low volume, intermittent traffic. The rail roadbed, ballast, ties and trackage show signs of aging and significant deterioration and will have to be substantially rehabilitated to serve the needs of major rail-using industry. ^{DONE} The barge port facility is designed for low volume throughput of large, heavy weight items (rockets) and would require substantial modification to support high volume shipping needs. ^{DONE} The barge facility is connected to the Tennessee Tombigbee Waterway by a dredged channel. The channel has not been used in recent years, and its current condition is unknown and may require maintenance dredging. ^{DONE}

The utility systems on site were designed to serve the needs of a major industrial complex with a total employment level approaching 3,000 workers. At the time NASA canceled the ASRM Project, the main utility infrastructure systems were essentially complete. The Project Team found that the basic utility infrastructure (potable water distribution, firewater distribution, wastewater collection, electrical distribution, natural gas distribution, and telecommunication systems) is more than adequate in both capacity and quality to support major industrial reuse and development on the site with little or no additional major capital outlay required in the near future.

All required utilities are in place and fully functional with the exception of the water and wastewater treatment systems. The water and wastewater treatment facilities are located off site and operated by external service providers. These facilities were specifically designed to meet the needs of the site and may be activated as needed. The treatment

facilities are not used currently because of the low level of demand. Temporary treatment facilities are in place as an interim measure.

Overall, however, the utility infrastructure systems are ready for industrial use. In summary, the utility infrastructure systems exhibit the following physical and operational characteristics:

- Good to excellent condition,
- Meet or exceed municipal, state, and industry construction standards,
- In compliance with applicable environmental and safety regulations,
- Functional and potentially capable of being brought into full operation with minimal capital outlay,
- Suitable for industrial reuse.

Generally, all site utility infrastructure and service systems have an existing low level of demand, adequate supplies, excess capacity, and sufficient expansion potential to meet major increases in industrial utility service demands potentially generated by the location of new major industries in the target industry groups.

Infrastructure

Internal Traffic Circulation and Main Road System

The main site includes a total of about three miles of paved roads. Three major arteries serve the main site area including County Road (CR) 989, Roadway A, and Roadway B. The major arteries are in generally good condition, grades are gentle, and designed to accommodate truck and automobile traffic. All internal roads maintain a minimum 24 feet pavement width with an eight feet shoulder. Minimum design loadings meet or exceed AASHTO HS 20 standard. The main internal roads are well maintained and provide good access and circulation throughout the main site.

The main site access is provided by CR 989, a paved two-lane, north-south roadway traversing the site and extending through the buffer area terminating at the point of the peninsula on Pickwick Lake. CR 989 is the single existing main site access route for both passenger vehicular and truck traffic.

Roadway A provides the main internal circulation. Roadway A is a paved two-lane roadway beginning in the southern half of the main site at the port facility and extending east across the bench area then rising to the plateau where it turns north running along the plateau between the main assembly building and office complex. About 2,000 feet north of the main assembly building, Roadway A makes a 90 degree turn descending westward from the plateau to the bench area terminating in the turbine building area.

Roadway B is paved, two-lane north-south roadway. It provides the principal site access and circulation through the center of the lower bench area. In the south, Roadway B intersects the east-west leg of Roadway A just east of the port facility. In the northern portion of the main site, Roadway B intersects the east-west leg of Roadway A just east of the turbine building. The surface of Roadway B requires the application of a finish course.

Transportation

ROAD AND HIGHWAY

Several Federal and state highways serve the Tri-State Commerce Park region. The major transportation route serving the area is US Highway 72 (US 72), located about 11 miles south of the park. US 72 is a major route running east-west across northern Alabama and Mississippi. Extending eastward, US 72 is a four-lane divided highway connecting the Iuka area to the Florence-Muscle Shoals Metro area. At Muscle Shoals, US Highway 72 intersects US 72A which continues eastward as a four-lane divided facility intersecting Interstate 65 at Decatur Alabama. I-65 is a major north-south route connecting Nashville and Birmingham. Extending westward across north Mississippi, US 72 connects the Iuka area to Memphis and Interstate 40 and Interstate 55. The western leg of US 72 is currently under construction to upgrade to a four-lane divided facility to Memphis. Completion is projected for 1998.

State Route 25 (SR 25), a divided, four-lane highway, connects the site access roads to US 72. Northward, SR 25 connects to US 64, a major east-west route across southern Tennessee, at Savannah, Tennessee.

US 72 intersects with US 45, a major north-south route at Corinth, Mississippi 22 miles west of Iuka. US 45 connects with I-40 at Jackson, Tennessee and extends southward terminating in Mobile, Alabama. Tennessee and Mississippi are upgrading US 45 to a four-lane, divided facility. The Mississippi section is nearing completion.

Direct vehicular access from SR 25 to Tri-State Commerce Park is provided by two county roads: CR 989 (6 miles) and CR 321 (4 miles). These county roads are well maintained, two-lane, paved roadways. CR 321 is the designated truck route to the site from SR 25. CR 321 intersects CR 989 (the main site access route) approximately 1,200 feet south of the south property boundary line.

RAIL SERVICE

The main site at Tri-State Commerce Park is connected via a nine mile long spur line to the main line of the Norfolk Southern near Iuka. The Norfolk Southern main line runs east-west across north Alabama and Mississippi terminating at President's Island Industrial Park on the Mississippi River at Memphis, Tennessee. The spur line was constructed by TVA in the late 1970's and was designed for the intermittent delivery of construction materials and equipment during the generating plant construction and subsequent maintenance outages. The spur is located on a fenced right-of-way. The State of Mississippi acquired the spur line and related right-of-way in conjunction with the assumption of ownership of the Tri-State Commerce Park property from NASA.

Overall, the rail system has a substandard load bearing capacity and is designed to accommodate only low volume, intermittent traffic. The rail spur roadbed, ballast, ties and trackage show signs of aging and significant deterioration and will have to be substantially rehabilitated to serve the needs of major rail-using industry. Major sections of the roadbed will have to be reconstructed or re-graded. Ties are approaching 20 years in age and most will need replacement. The existing trackage should be replaced with heavier duty, modern continuous welded rail to meet the needs of higher volume, rail-using industries, such as, a fossil fuel power generation plant. Under the current deteriorated condition of the access spur line, the site can not effectively be considered rail served.

The rail facilities located on the main site consist of a total of about three miles of trackage including four separate spurs. The rail facilities on the site are generally oriented north-south running parallel to Roadway B on the lower terrace. At present, the upper plateau area is not rail served. In contrast to the condition of the off-site section of the rail spur, the on-site rail system appears to be in better condition; however, upgrading the on-site rail to current standards is desirable.

WATER TRANSPORTATION

As noted above, Pickwick Lake and Yellow Creek embayment are used for commercial navigation. Pickwick Lake is a TVA reservoir located on the main stem of the Tennessee River. The Tennessee River Navigation System provides barge access to the Mississippi and Ohio River Systems. The Yellow Creek embayment adjoins the Tennessee-Tombigbee Waterway, a navigable lock and dam barge waterway with a minimum nine foot channel depth. The waterway connects the Tennessee River System with the Gulf Coast and Intracoastal Waterway via the Port of Mobile, Alabama.

A barge terminal facility is located on site adjoining the Yellow Creek embayment. The barge facility consists of a bulkhead/mooring cell and heavily reinforced concrete apron which extends into the embayment below the low pool level. Thus, year-round barge access is available at the site. The barge facility is connected to the Tennessee Tombigbee Waterway by a dredged 3,000 feet channel. The barge channel is 100 feet wide with a minimum year-round channel depth of nine feet. The channel has not been used in recent years, and its current condition is unknown and may require maintenance dredging. *DONE*

Overall, the barge facility is designed for low volume throughput of large, heavy weight items (rockets) and would require substantial modification to support high volume shipping needs. Furthermore, the area available for port expansion is relatively limited and is not rail served. Despite these constraints, the availability of the barge terminal facility is a potentially valuable asset to industries locating at Tri-State Commerce Park.

Utility Systems

ELECTRICAL SYSTEM

Electrical power to Tri-State Commerce Park is provided by direct service from the Tennessee Valley Authority (TVA) transmission system. The site has dual feed service. Power to the site is routed via two separate TVA owned lines with an operating voltage rated at 161,000 volts each. One 161 kV connects to the Burnsville substation about 15 miles southwest of the site and the other to the Pickwick Dam Hydro-station substation about 15 miles to the north.

One primary, dual-feed, 161 kV/13.8 kV substation, owned by the State of Mississippi, is located on site to provide step-down capability at Tri-State Commerce Park. The substation has state-of-the-art switching capability to minimize interruptions resulting from transmission line loss. This is a significant asset for manufacturers using computer controlled process equipment, telecommunications, and other computer operations.

Distribution voltage is provided throughout the main site at 13.8 kV by looped distribution feeders originating from main substation. All process building power service is dual feed and fully redundant. Three phase power service is available throughout the site.

Tri-State Commerce Park has no continuous duty electrical power generating capacity. However, while TVA is a highly reliable source of power, as an added measure of protection, backup emergency generators are located at critical sites to protect against loss of power.

Electrical power supplies are reliable and adequate for meeting significant increases in demand. No identifiable limitations for future growth are present in either the available power supply or the site distribution system. Power supplies are available in the quantities and quality needed to meet the power needs of all but the largest power intensive industries.

HEATING AND FUELS SYSTEMS

Heating of facilities at Tri-State Commerce Park is provided primarily by individual package heating plants including gas fired boilers and a small number of electrical heat pumps. Natural gas is the principal heating fuel. Electric and fuel oil heating is minimal. Tri-State Commerce Park has no heating fuel oil storage for alternative heating. The large majority of the former TVA temporary structures are unheated and uninsulated.

Natural gas is supplied to Tri-State Commerce Park by Tumlinson Natural Gas Company via 3 inch high-pressure main at 300 psi (capable of delivering 244 MCF/Hour) to a metering station located about 200 feet south of the site boundary adjacent to the rail spur. At the metering station, the pressure is reduced to about 20 psi and fed into the State-owned site distribution system. Natural gas distribution lines range from 1-6 inches in diameter and are on or adjacent to almost all developable parcels on the main site.

Major regional natural gas transportation lines are located in the area offering a variety of alternatives for natural gas service. The existing natural gas system and supply are adequate to support increased demand generated by industrial growth at the site for the foreseeable future.

POTABLE WATER SYSTEM

Tri-State Commerce Park currently operates its own potable water system which consists of a temporary surface water treatment plant and a potable water distribution system serving the majority of the main site. The raw water supply for the temporary treatment system is drawn from the man-made pond located on the northwest corner of the main site. At the present time, some undetermined water quality problems are present and site personnel are using bottled water for drinking purposes. The current treatment plant is an interim supply measure.

During the NASA era, the Short Coleman Water District constructed a water treatment plant designed to supply the site's needs utilizing surface water as a raw water supply

from Pickwick Lake (Tennessee River). The existing surface water treatment plant has a rated capacity of over 700,000 gallons per day (GPD). The effective capacity is in excess of the minimum 500,000 GPD needed to meet the site's potential demand and is expandable to 1,000,000 GPD. Treated water is pumped to a 500,000 gallon elevated tank and the distribution system which serves almost all developable areas of the site.

From an industrial development perspective, Lockwood Greene typically recommends a minimum available potable water supply capacity of 500,000 GPD with the potential to expand to a total of 1,000,000 GPD for a site of this size. The combined capacity of the existing Short Coleman water treatment plant and elevated tank meets the minimum requirements for the development of the site at present.

In addition to the surface water treatment plant serving the site, a ground water treatment plant owned by the Short Coleman Water Association is also located in the vicinity. As a supplemental water source and backup supply for the surface water treatment plant, the Association constructed a ground storage tank and booster pump connecting the ground water treatment plant to the elevated tank on site. This system failed to function properly, and the Association indicated that substantial modifications are required. Examination of the hydraulic profile prepared by Dean McRea Engineering confirms that the ground storage tank must be relocated and the booster pump upgraded to permit recharging the elevated tank from this alternative source.

The Project Team concluded that, from an operational standpoint, providing the connection between the two water systems enhances the economic development potential of the site. Connecting the systems increases overall reliability and provides a backup for the surface water treatment system in case of failure of the primary system. Availability of an alternative or secondary supply source would be regarded by larger water-using industrial prospects as a positive site asset increasing the attractiveness of the site as a potential location for new operations. The connection may also have the added potential benefit of reducing some or all of the future capital investment required to provide

additional capacity to 1,000,000 GPD should growth in industrial demand exceed the available capacity of the existing primary plant. The combined capacity of the two water supply and treatment systems approaches the 1,000,000 GPD level and would meet the needs of all but the largest water-using industries for the foreseeable future. The water supply and distribution systems meet municipal standards and is adequate for supplying the anticipated potable water demand throughout the first phase of development.

FIRE WATER

A separate and complete fire water distribution system serves the developed area of Tri-State Commerce Park. The system consists of radial and looped lines and fire mains located throughout the site. The fire water distribution system meets municipal fire protection standards for a planned industrial district.

WASTEWATER DISPOSAL SYSTEM

Tri-State Commerce Park is currently operating its own wastewater treatment and collection system. This is an interim measure stimulated by low demand levels. A permanent wastewater treatment plant owned and operated by Tishomingo County is located in the southeast quadrant of the buffer zone. The Tishomingo County Wastewater Treatment Plant was designed and constructed to serve the site. It is potentially fully functional but currently inactive due to lack of demand.

The overall Tri-State Commerce Park wastewater disposal system including the county plant consists of a primary and secondary wastewater treatment plant and a combined gravity feed and force main wastewater collection system including 10 installed pumping stations. The wastewater collection system generally serves the existing buildings and most potentially developable areas of the main site. The collection system is readily accessible to the remaining potentially developable areas of the main site through construction of gravity mains. No apparent inflow and infiltration problems with collection lines are present.