





Landscape Area

Sign Area

**LEGEND**  
 PANDA ENERGY SITE  
 SOUTHEAST FARM SITE  
 PROPERTY LINES

**PANDA TEMPLE POWER PROJECT**  
 PLANNED DEVELOPMENT SITE PLAN PHASE II  
 K&A KARRISER, PATRICK & ASSOCIATES, L.P.  
 CONSULTING ENGINEERS  
 TEMPLE, TEXAS 76788  
 PLAN No. P-212  
 1-8-10 EXHIBIT B



**Panda Temple Power Project**  
**SUBMITTED WITH THE PLANNED DEVELOPMENT APPLICATION**  
**TO THE CITY OF TEMPLE**  
**JANUARY 20, 2010**  
**GENERAL PROJECT DESCRIPTION**

Panda Temple Power, LLC (Panda) is developing an electric power generating facility to be located in the City of Temple (City). Specifically the site location is on a 250 acre parcel in the Southeast Industrial Park. Panda has a contract in place with the Temple Economic Development Corporation (TEDC) for an option to purchase this property. The following sections describe the proposed facility including utility interconnections, fuel supply, water and waste water connections, access, permits, and plans for expansion.

Technical Description of Power Plant

The electric generating facility will be a natural gas fired, two-on-one power block in combined cycle configuration. This arrangement consists of two Gas Turbine Generators, two Heat Recovery Steam Generators, and one Steam Turbine Generator. The plant will have a nominal output of 550 MW and a maximum output of approximately 650 MW with duct firing.

The proposed plant will utilize the latest, most efficient and environmentally friendly power generation equipment available on the market today. It will have an overall heat rate of approximately 6900 Btu/kWh and will have one of the lowest emissions possible of any Texas power generation facility. The general layout of plant equipment and structures on the site is shown on the Project Development (PD) Drawing.

Water Supply

The primary water supply for cooling and makeup to the plant will be treated effluent provided from the Doshier Farm Waste Water Treatment Plant (WTP), which is owned by the City of Temple. A Water Agreement that addresses the purchase of the treated effluent by Panda and the terms of supply and delivery has been executed between Panda the City.

The effluent will be pumped from the Doshier facility through a 16-inch diameter pipeline approximately 1.1 miles to the project site. Panda will be responsible for the design and construction of the pump station and the pipeline. Panda will transfer ownership of these facilities to the City upon completion.

The pipeline will be located on easements on four parcels of City owned property and one privately held parcel. Routing and preliminary survey drawings for the easements have been completed. Additionally, the project will be supplied with potable water from the City water system. It is planned that an eight-inch water line will be installed, running from the existing line on Lorraine Drive at the Best Rite facility to the Panda project site.

Preliminary routing and designation of easements for this line have been accomplished as part of the Lorraine Drive Extension engineering effort.

Waste Water

The primary source of waste water on the site will be blowdown from the Cooling Towers. This stream will be processed through Reverse Osmosis (RO) units in order to reclaim and reuse as much water as possible. The RO reject stream will then be sent to an onsite evaporation pond. There will be no liquid waste discharge to the environment.

Sanitary sewage will be discharged via a Panda pipeline to the existing 15-inch waste water trunk line, owned by the City, which traverses the Panda site.

### Fuel Supply

Natural gas will be supplied from the Atmos 30-inch pipeline and the Energy Transfer Corporation 20-inch pipeline. These are located approximately 7 and 13 miles east of the Panda site respectively. Panda will construct a compressor station and a lateral pipeline to the interconnection points. Preliminary pipeline routing and engineering have been performed.

### Electrical Interconnection

The Panda Temple Project will connect to the existing Oncor 345 kV transmission line, which runs across the Panda site. A new Oncor switching station, located onsite adjacent to the Panda power island, will be constructed concurrently with the Panda project.

All interconnection studies by Oncor have been completed. No system upgrades are required other than the changing of line termination equipment at the Temple and Salado switching stations at a minimal cost. These studies demonstrate that the Panda Temple Project can easily inject its power into the Southern Zone of the ERCOT grid. Oncor is currently preparing a draft Interconnection Agreement for Panda review.

In addition the Panda site will be served by a distribution line to be constructed along Lorraine Drive from Loop 363 and along the Panda Drive connector to the project site boundary. This line will provide power for construction and will serve auxiliary site loads during the operations phase and will also provide power for streetlights along Lorraine Drive and Panda Drive.

### Permitting

Panda received its Air Permit from the Texas Commission on Environmental Quality (TCEQ) on October 10, 2008. Onsite environmental assessments have been performed and no adverse impacts have been identified. Additional required permits will be applied for and obtained as the project goes forward.

### Site Access

The primary access to the site will be via a planned extension of Lorraine Drive and a north-south connector road to the Panda site. These roadways have already been laid out and preliminary engineering (30% Review Drawings) has been completed for the City by Kasperg, Patrick and Associates. The ROW for these roadways is 80 feet. A secondary access road is planned which will approach the site from the south. Panda will construct a construction phase access road with the City's permission on easements owned by the City. These easements run north from FM 317 and then west to the southeast corner of the Panda site. The ROW available for this road ranges from approximately 80 feet up to approximately 200 feet. All roads, walkways, and parking areas within the site boundary will be the responsibility of Panda. Specific locations and routings will be developed during the final site engineering phase of the project.

### Expansion

The project is designed to allow future expansion. Specifically, a second power block generally identical to the first block would be added thus doubling the overall plant electrical output to a nominal 1100MW. For planning purposes, this additional capacity is designated as Phase 2. Both Phase 1 and Phase 2 are shown on the respective Project Development Drawings.

## **PD SITE PLAN CHECKLIST – EXPLANATORY NOTES**

### Uses

The major structures and areas (power block, cooling towers, raw water storage pond, waste evaporation pond, switchyard, etc.) are identified on the PD Site Plan.

More detailed identification of power plant equipment is provided on the Plant Arrangement Drawing and the Power Island Elevation Drawing which were prepared for Panda by Burns and Roe Engineers.

### Building Locations

Building locations are shown on PD Site Plan and the Plant General Arrangement Drawing. Building Heights and General Floor Area

Building heights for the main power island are shown in the Power Island Elevation Drawing.

General areas are indicated by the General Arrangement Drawing. Due to the complexity of the equipment layout and the amount of equipment that is located outside of closed structures, it is difficult to provide a specific number for “floor areas” especially in this stage of the design process.

Setbacks from Property Lines

The location of structures relative to the property lines is shown on the PD Site Plan Drawing.

### Landscaping

Panda will provide landscaping on the site consistent with its use as an industrial facility.

### Location, Height and Area of Signs

Panda will install signage at the entrance gates to the site on the primary and secondary access roads. Panda may also install a sign as part of the Southeast Industrial Park monument at the intersection of Lorraine Drive and Loop 363. All signs will be of appropriate size, height and design in keeping with the overall aesthetics of the park.

### Screening Walls or Fences

The project buildings, equipment, structures, switchyard and ponds will be enclosed by a security fence. Due to the nature of the surrounding industrial park and the distance of the plant equipment from the site boundaries, no additional walls or screening are planned.

### Lot Area

The overall site area is 250 acres as indicated on the plat drawings.

### Adjacent Land Uses

The property adjacent to western portion of the northern boundary of the site is used for light manufacturing by the Best Rite facility. The property adjacent to the site along its southwestern border is owned by the BNSF railroad and is used for a fueling facility and the through rail line. The remaining parcels adjacent to the site are wooded or are currently under cultivation. The site is zoned as LI – Light Industrial.

### Easements

The original easements on the site property are to the City of Temple for the existing 15” waste water trunk line and the 8” waste water force main and to Oncor for the 345kV transmission line corridor.

Easements have been added to site property for drainage along the western end of the northern boundary and for a drainage path running north – south near the transmission line.

There is also a strip of land along the eastern boundary of the site which will be dedicated to the City of Temple for future use as an access road and / or water lines. These easements and dedicated strip are shown on the Preliminary Plat Drawing and on the PD Site Plan.

### Significant Drainage Ways or Natural Features

The topography of the site is shown on the Topo / Utility Map and on the PD Site Plan. The primary drainage way is Knob Creek which runs generally north – south in the western portion of the site.

### Fire Hydrants

The Panda facility will have its own fire detection and protection system. The fire protection system will include fire water storage, pumps, buried loop piping, interior sprinkler systems, as well as hydrants. The fire systems will be designed and constructed in accordance with applicable provisions of the National Fire Code as well as local requirements. During the final design phase for the project, Panda's engineering and construction contractors will work directly with the City of Temple Fire Marshal to ensure that all requirements are implemented and that all appropriate inspections are performed.

It should also be noted that at all our facilities, Panda's O&M organization works closely with the local fire and emergency services organizations to coordinate emergency response procedures and to ensure that all responders are familiar with the facility. Panda also will implement a detailed hazardous material control and emergency training programs at the facility.

### Sidewalks

Various paved walkways will be provided on the site for use of Panda operations and maintenance personnel. The exact layout of roadways and sidewalks will be developed during the final site engineering phase of the project.

### Required Parking and Loading Spaces

Parking and loading spaces will be provided on the site for use of Panda operations and maintenance personnel and for shipping and receiving materials.

The exact layout of roadways and sidewalks will be developed during the final site engineering phase of the project.

### Refuse Container and Screening

Refuse containers will be located and maintained by Panda in accordance with good industrial practices.

### Width of Internal and Adjacent Streets and Alleys

Roadways within the Panda site will be designed and constructed to serve the needs of operating and maintaining the power facility. The exact design of these roadways will be developed during the final site engineering phase of the project. With regard to adjacent streets, the primary access road which connects the site to the Lorraine Drive extension will be designed and constructed in accordance with the requirements and specifications put forth by the City of Temple. These are reflected in the engineering drawings that have already been produced. The ROW width for this road is 80 feet.

The secondary access road connecting to the southern boundary of the site will also be designed and constructed in accordance with the appropriate City of Temple requirements. The ROW available for this road ranges from approximately 80 feet up to approximately 200 feet.

### Location and Size of Water and Sewer Mains

The potable water supply will be provided by an 8 inch pipeline which will run along the southern side of the Lorraine Drive Extension and then along the western edge of the Panda Drive connector road to the Panda site boundary. This line will be located within the ROW for the roadways.

The effluent water supply will be provided by a 16 inch pipeline which will run from the outfall of the Doshier Farm Waste Treatment Facility, under Loop 363 and then across open land to the Lorraine Drive Extension where it will run along the north side of the roadway. It will then run down the eastern edge of the Panda Drive connector road to the Panda site boundary. The ROW for this pipeline will be a 20 foot wide Public Utility Easement. The sanitary sewer connection will be via a Panda pipeline running from the appropriate buildings on site to the 15 inch waste water trunk line which transverses

the Panda site near Knob creek. The routes for the potable water and effluent water lines are already shown on the engineering drawings which were prepared as part of the Lorraine Drive Extension engineering effort. The exact design of the onsite piping for potable water, effluent, and sewage will be developed by Panda's engineering contractor during the final site engineering phase of the project.

#### Drainage Facilities

The size and location of site drainage facilities are shown on the Preliminary Drainage Plan prepared by Kasberg, Patrick and Associates. The three exhibits in the plan show the existing drainage pattern and the drainage patterns for Phase 1 of the project (one Power Island) and for Phase 2 of the project (two Power Islands).

#### Public Open Space, Parks and Playground

These types of facilities are not applicable to a private industrial site.