

PCE CONSTRUCTORS, INC. REPRESENTATIVE PROJECTS

POWER PROJECTS

Steam Power Project Texas

Installation of a site erected waste gas fired 160,000 LB/HR steam boiler (Hangzhou Boiler Group), foundations/concrete, drilled piers (730 EA - 24 IN/30 IN DIA), structural steel fabrication/erection, process equipment installation (fans/pumps/tanks/MCC building), piping fabrication/installation, insulation/refractory, and, electrical/instrumentation work. Work included approximately 2 miles of 16 IN/6 IN steam/condensate pipe lines to an adjacent refinery.

Power Project Mississippi

Completion of Power Project (765 MW) – performed equipment installation, piping, critical code welding, electrical, and mechanical work items to complete the plant installation (Westinghouse 501G). Testing and boiler certification were also in the work scope. Provided instrument technicians to conform/confirm all control circuitry and instrument calibration. Assisted in commissioning and start-up activities.

Power Plant Expansion Utah

Power Plant Expansion (100 MW) – Existing simple cycle utilizing two (2) CGT/G units expanded to include HRSG and steam turbine-generator. Work scope included: site work, foundations, underground installation, structural, mechanical, equipment erection/installation/ alignment, site buildings, all piping systems, thermal insulation, electrical, instrumentation, and painting.

Power Project Arkansas

Completion of Power Project (760 MW) – performed various piping, critical welding, and mechanical work items to complete the plant installation (Westinghouse 501G). Provided up to fifteen (15) instrument technicians to conform/confirm all control circuitry and instrument calibration. Assisted in commissioning and start-up activities.

Plant Relocation Oklahoma

Performed equipment relocation from Delaware, civil and foundations, mechanical and piping work scopes for 18MW power generation unit.

Power Project Nebraska

Performed new construction of the following: (1) A complete GE Glegg water treatment system; (2) A complete Trane refrigeration system; (3) Above and underground piping to cooling towers; and (4) Provided equipment and installed a complete fuel oil system for 3 GE LM6000 turbines. This work included calibration, furnish, install and alignment of equipment and commissioning.

**PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS**

POWER PROJECTS

Power Project
Texas

Mechanical, Piping, Electrical, and Instrumentation installation including: furnishing and installing heat trace power and controls; electrical lighting and grounding. Plant wide systems completion involving all aspects of Mechanical, piping, E&I work, and multiple CGT rebuilds, Start-Up, and Commissioning of 4 ABB single shaft (250MW/EA) gas/steam turbine/generators.

Power Plant Mechanical Erection
Florida

Total mechanical erection for this (520 MW) combined cycle power plant. Scope included two (2) General Electric 7FA CGT, one (1) General Electric Steam Turbine, and two (2) Vogt-NEM HRSG Units with all interconnecting and BOP aboveground piping fabrication/installation; pipe racks/structural steel, insulation, and painting.

Power Project
Missouri

Scope included furnishing and installing all foundations (23,500cy) and underground piping systems – firewater, storm drains, water and process lines, fuel gas, sanitary sewers, and circulating water. All site electrical grounding and duct banks also included. Site developed for a Siemens V84.3A Combustion TG set – single shaft: one HP/LP Steam turbine; and associated equipment for a 250MW Power Generating Station. Equipment installation and erection including: A SIEMENS V84.3A Combustion TG Set-Single Shaft; one HP/LP steam turbine; clutch, condenser; and, auxiliary equipment to support turbine.

HRSG Erection
Texas

HRSG Erection – Installation of four (4) ABB – CE Model ICS KA-24 Heat Recovery Steam Generators, all systems piping, access steel, stack, and ammonia injection system equipment and piping.

Mechanical Erection
Kentucky

Mechanical erection for a Siemens Westinghouse V84.3A CGT, with hydrogen cooled generator, simple cycle plant.

HRSG Erection
Texas

HRSG Erection – Installation of two (2) ABB – CE Model ICS KA-24 Heat Recovery Steam Generators, all systems piping, access steel, stack, and ammonia injection system equipment and piping.

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POWER PROJECTS

Power Project
Oklahoma

Green Field (Grass Roots) Project – 520 MW Power Generating Station -Equipment installation and erection included: two (2) Siemens V84.3A Combustion TG; one (1) HP/LP Steam Turbine and Generator, Condenser; auxiliary equipment; all steam, condensate, and service piping systems and supports/pipe racks, and all electrical and instrumentation.

Underground Installation – Scope included furnishing and installing underground piping systems – firewater, storm drains, water and process lines, fuel gas, sanitary sewers, and circulating water. All site electrical grounding and duct banks were also included. Site developed for a combined cycle power plant utilizing SIEMENS combustion gas (2)/steam (1) turbines.

Power Project
Louisiana

Mechanical, electrical, and instrumentation installation for repowering a 500MW unit. Project included all piping from three (3) new HRSG's. Scope of Work included furnishing and installation of all piping, hangers, valves, ammonia system, electrical, and instrumentation.

Power Project
Missouri

Green Field (Grass Roots) Project – 250MW Power Generating Station –Equipment installation and erection included: A SIEMENS V84.3A Combustion TG Set-Single Shaft; one HP/LP steam turbine; clutch, generator, and condenser; auxiliary equipment to support turbine; all steam, condensate, and service piping systems and supports/pipe racks; and, all electrical and instrumentation.

Engineering, procurement and fabrication services for critical piping systems including main steam, reheat, feedwater, and condensate. Detail piping design included wall thickness, pressure drop, warm-up/cool down calculations, steam hammer, flexibility and thermal stress analysis and hanger/support requirements.

Power Project
Alabama

Two (2) V84.2A SIEMENS 120 MW combustion turbine-generator units and associated plant equipment. Project scope included all underground systems, mechanical, rigging, pipe fabrication/installation, electrical and instrumentation work.

Power Project
Texas

Repowering of existing steam units – two 22 MW steams turbines, two 11 1/2 MW non-reheat condensing turbines, installing new GE LM6000 Aeroderivative gas turbine, and Dino 4028 Deltak HRSG. Project included all work scopes: foundations, structural steel, ASME Section I piping, process equipment/module installation, electrical, instrumentation, and start-up/commissioning support.

**PCE CONSTRUCTORS, INC.
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REFINERY PROJECTS

Sulphur Recovery Unit
Montana

Scope included minor foundations, structural, mechanical, piping, and electrical/instrumentation work for new Sulphur Units No. 1 and No. III. Units were additions to an operating facility.

Hydrogen Generation Unit
Montana

EPC project – 40MMSCFD Hydrogen Plant. Work scope included all construction - self perform 90% of on-site work (foundations/underground; structural steel; process equipment – reformer, PSA unit, compressors/pumps; tanks and vessels; piping; and, electrical/instrumentation), procurement of all commodities and selected equipment, and start-up/commissioning support.

Hydrogen Generation Unit
Kansas

EPC project – 17MMSCFD Hydrogen Plant. Work scope included all construction - self perform 90% of on-site work, procurement of all commodities and selected equipment, including piping/equipment modules, and start-up/commissioning support.

MSAT2 Naphtha Fractionator
Wyoming

- EPC project, working with an alliance engineer to design, procure, and construct this 17,500 BPD unit. Scope includes: foundations/structural/process equipment installation /piping/thermal insulation/electrical/instrumentation/commissioning/start-up/turnover of the new unit.
- Various projects involving civil/structural, equipment installation, piping, and electrical; preparation for refinery shut down.

Refinery Expansion
Utah

Fast Track EPC Project – PCE teamed with alliance engineering firm to design, fabricate, and install a major pipe rack connecting units throughout the refinery. Construction work scope included: piling; foundations; fabrication/installation of structural steel; and, minor electrical work.

Hydrogen Purification/ Isotherming Hydrocracker
Kansas

Work scope included: foundations/underground, structural steel, equipment installation including 10,000hp compressor, piping, electrical, instrumentation, and commissioning/start-up support. Work performed during cold weather conditions and within operating units.

Amine/LPG/Merox/Shutdown Projects
Wyoming

Work scope included: underground/foundations, structural/equipment installation, piping, electrical, instrumentation, commissioning/start-up support, and turn around activities. Equipment towers/columns, drums, pumps, compressors, and exchangers. Work performed in adverse weather conditions and inside operating units.

PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS

REFINERY PROJECTS

Green Field
Kansas

Green Field CCR unit (17,000 BPD) adjacent to existing refinery and process unit. Work included foundations, structural steel, mechanical installation including large compressors, piping, electrical and instrumentation. Work also included total refinery recovery work resulting from flood damage.

Heat Recovery Steam Generator
Texas

Installation of Heat Recovery Steam Generator (HRSG) and associated duct work from gas turbine direct to the burner duct. Work included all rigging, duct installation including 25ft x 25ft hydraulically driven guillotine valves, piping, critical code welding, in-line instrumentation, and specialties. Painting – subcontracted. A follow-up project included HRSG modifications and was performed on an outage basis.

Green Field Diesel Hydro Treater Project (33,000 BPD)
Tennessee

Green Field Diesel Hydro Treater Project (33,000 BPD). Work Scope included: structural, mechanical, equipment installation/alignment, piping – including fabrication of small bore, electrical, instrumentation/controls, thermal insulation, heat tracing, and painting.

Green Field (Grass Roots) Project
Kansas

Sulfur Recovery Unit
Mechanical, piping, electrical, and instrumentation installation including: receiving, setting and aligning all equipment (vessels, compressors, pumps); scaffolding; furnishing fabricating and installing all piping systems; furnishing and installing heat (steam) trace, power and controls; electrical lighting and grounding; check all systems for completion; and provide support for commissioning and start-up activities.

Cleans Fuel Project
Mississippi

Supplied supervision and craft labor (pipefitters, welders, riggers, and electricians) to Fluor Daniel for outage and turn-a-rounds in Area 81 – Distillation/RDS Modules, Area 83 – Coker, and Area 84 - VDU. In addition to standard piping systems, performed installation and welding of the following materials: Inconel (14" XXS), Stainless (up to 14" S/160), 5% and 9% Chrome (up to 14" S/160).

PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS

CHEMICAL / PROCESS PROJECTS

Biochemical Pilot Plant / Bagasse Processing
Louisiana

Scope included all mechanical, limited structural/foundation work, piping, and commissioning/start-up support. Boiler licensing under the State of Louisiana rules was also included.

Biofuels Plant
Mississippi

Foundations/underground construction; structural steel installation; process equipment installation; piping; electrical/instrumentation work; and, start-up/commissioning support.

Succinic Acid Bio-Refinery
Louisiana

Scope included all MEP work: structural steel fabrication/installation; process equipment installation; pipe fabrication/installation; electrical/instrumentation work; and commissioning/start-up assistance.

Plant Expansion
Arkansas

Bromine Based Fire Retardant Products - Scope included: demolition of selected components and structures within operating units; underground piping/electrical duct banks; foundations; structural steel/process equipment installations; pipe fabrication/installation; electrical/instrumentation; and, commission/start-up assistance.

UAN Fertilizer Plant Expansion
Nebraska and Kansas

Scope included: deconstruction of a Nitric Acid Plant in Nebraska; clean-up of the site; relocation of equipment/facilities to refurbishment shops; installing the refurbished plant along with a UREA plant expansion. Scope included refurbishment of selected structures/buildings/equipment; underground/foundation/concrete structures; structural/process equipment installation; and, pipe fabrication/installation.

Ethanol Plant
Nebraska

Green Field ethanol plant (275,000,000 GPY) with additional grain processing and storage facilities. Work scope included foundations – 50,000 CY, structural steel installation, equipment installation, piping installation, and electrical work for selected plant units. Client served as the engineer and general contractor.

Plant Expansion
Oklahoma

Expansion of existing Fertilizer Plant- Work scope included structural steel, miscellaneous work, and instrumentation.

**PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS**

CHEMICAL / PROCESS PROJECTS

Calcium Chloride Plant
Arkansas

Green Field Calcium Chloride Plant – Work scope included underground installation, foundations, and structural steel, piping, equipment installation, electrical, instrumentation and start-up/commissioning support.

Plant Relocation
Mississippi

Relocate Existing Ammonia Plant (3300 Tons of equipment & materials) – Work Scope included: marking for reinstallation in Australia, deconstruct, preparation/packaging for ocean transport, and shipping to the Port of Mobile, Alabama a complete 500TPD Ammonia Plant.

Installation Air Pollution Control System
Louisiana

EDV 6000 Air Pollution Control System – Furnish, fabricate, and install piping systems (carbon and stainless steel up to 30 inch), furnish and install electrical and instrument systems, install Owner furnished equipment including pumps, blowers, clarifiers, tankage, plate work (duct), filtering modules and two hundred foot stainless steel stack (13 ft - Ø).

Carbon Black Project
Louisiana

Carbon Black Process Unit - Work included procurement, fabrication, painting and erection of pipe, pipe support systems, and process equipment installation for new unit. Pipe size range ½"Ø - 108"Ø – carbon, cor-ten, and stainless steel.

**PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS**

GAS TREATING / GENERATION

Gas Treating (Helium Extraction) Plant
230 MMSCFD Capacity
Colorado

Underground, foundations, structural steel, equipment installation including 7,000 HP compressor, process/utility piping, electrical/instrumentation; control building; and, commissioning/start-up support.

Liquid Nitrogen Plant / 250 TPD Capacity
Texas

Phase I – Site work, underground (piping/duct banks), foundations – including an elevated foundation for a 560,000 gallon liquid nitrogen storage tank, structural steel/process equipment/piping.

EPC Project - Liquid Handling Facility
Louisiana

EPC Project – 5,000 BPD condensate stabilization facility – Ruston, Louisiana. Teamed with alliance engineer. Work scope included constructability reviews with engineer, foundations/ underground, structural steel, process equipment installation - pumps/filters/ compressors/heaters/vessels/coolers/load out systems/2,500BBL slug catcher, piping, electrical, instrumentation, and commissioning/ start-up support.

200 MMSCFD Cryogenic NGL Recovery Unit
Oklahoma

Miscellaneous foundations, process equipment installation, structural steel, piping/fabrication-installation, electrical/instrumentation, thermal insulation, and commissioning/start-up support.

200 MMSCFD Gas Treating Plant
Oklahoma

Miscellaneous foundations, process equipment installation, structural steel, piping/fabrication-installation, electrical/instrumentation, thermal insulation, and commissioning/start-up support.

350MMSCFD Gas Treating/Compressor Facility
Colorado

Scope included all site work, foundations, and underground piping/electrical installation, receiving/unloading, and storage of process equipment.

Air Reduction Plants
Arizona

Scope included mechanical and piping installation of two air liquefaction plants including unloading and rigging of APCI furnished equipment: cold boxes; PSA skids, cooling tower modules, miscellaneous electrical gear; fabrication and installation of piping, structural supports, and thermal insulation.

**PCE CONSTRUCTORS, INC.
REPRESENTATIVE PROJECTS**

GAS TREATING / GENERATION

**Plant Relocation
Sandstone, Virginia & Austin, Texas**

Air liquefaction plant relocation from Virginia to Texas. Work included deconstruction of an existing plant in Virginia and, along with new/refurbished equipment, reinstalled in Texas. Work scope included rigging/loading/unloading, equipment/structural installation, piping, electrical, instrumentation and pre-commissioning/start-up assistance.

**Helium Plant Installation
Wyoming**

Scope included all work above foundations, structural/equipment installation, piping, electrical, and instrumentation. Equipment included: modular units, pumps, exchangers, storage facilities, and specialties. Work performed in extremely adverse weather conditions.

**Compressor Station Upgrade/Expansion
Texas**

Work scope included: underground installations; foundations; structural/equipment installation; piping (including station manifold replacement); electrical; instrumentation; and, shut-down tie-in work. Equipment included: heaters, modular units, pumps, and exchangers. Except for shut downs, work performed during station operations.

**CO₂ Purification Plant (178 TPD)
Oklahoma**

Work Scope: Underground/foundations; structural/mechanical/piping/electrical/ instrumentation and commissioning/start-up support. Process equipment included: CO₂ column, modules, dehydrators, gas scrubbers, heat exchangers, pumps, heaters, compressors, and air cooler.