Comsigua Hot Briquetted Iron

PROJECT: Hot Briquetted Iron (HBI) Production Facility

CLIENT: Comsigua (Complejo de Guayana, C.A.)

LOCATION: Puerto Ordaz, Venezuela

SERVICES: Preliminary and Final Design Engineering

DESCRIPTION:
Facility was designed to process one million metric tons per year of Hot Briquetted Iron (HBI) using Midrex direct reduction technology. Construction of this facility was completed 25 months from contract signing. Plant constructed value exceeded $250 million and achieved a five year performance milestone in 2003, producing more than six million metric tons of high quality HBI (93.5%metalliztion, 1.0 to 1.2% carbon).

PRINCIPAL FEATURES:

- Structural design: 100 m high reduction furnace support structure, reformer structure, water treatment, and product handling and loadout
- Specification and selection of utility, process, material handling, and electrical/instrumentation
- Design of material handling bins, chutes and hoppers
- Pile and spread foundation design for buildings and support structures
- Electrical power distribution
- Piping/duct design (orthographics and isometrics) for:
  - Fuel gas to reformer burners
  - Diesel fuel to emergency generators
  - Combustion air to reformer
  - Process gas (refractory lined)
  - Hydraulic piping to briquetting machines
  - Process water to cooling tower and water treatment
- Control system concept and design
- Architectural and HVAC design for a multi-story CCR building including:
  - MCC
  - Offices
  - Laboratories (physical, wet, electronics)
  - Main control room
  - Workshops
- Preparation of drawings in both English and Spanish

RIVER

7.2.08