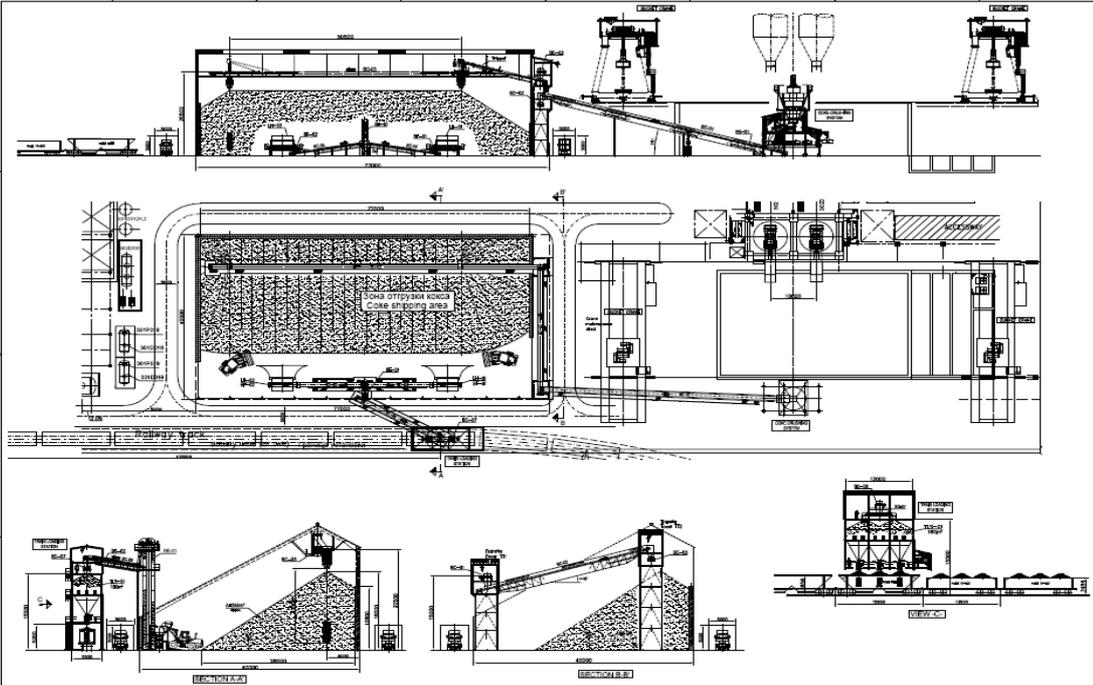


CASE

STUDY

CJSC Antipinsky Oil Refinery
(Russia)



In the first half of 2015, CJSC Antipinsky Oil Refinery awarded one contract to TaimWeser, to undertake a new coke conveyor belt, in Antipinsky (Russia).

- The project consists of the transfer of coke from the discharge pits of the chambers, where the product is produced, to the hopper that feeds the circuit conveyor belt, where Taim Werser has supplied a transport system based on a specific design conveyor belts and associated electrical equipment, peripherals and control system, in order to obtain the best and safest transport system.

- This equipment is designed to work in very aggressive and explosive environments, abrasive dust and adverse weather, so the equipment is protected from heat, corrosion and dust, and require protection for explosive atmospheres, according to the customer's requirements. The scope of supply is the following: engineering, design, manufacturing y documentation of the following equipment:

- Draw-out MCC, for the fixed and variable motors, 4b form, according to IEC 439-1. Intelligent relays, connected via field bus for each one of the direct starters.
- Panels for the heating resistances and auxiliaries.
- Hardware & software of the control unit, based on redundant and safety PLC, S7-400 family (Siemens brand).
- Remote unit for the adquisition of I/Os, inside explosion-proof panel, inox. ATEX 2GD Exd IIB IP66 T4/T135C.
- Control and operation panel.
- HMI, WinCC family (Siemens brand).
- Engineering station including development software.
- Development licenses of software for the PLC and HMI.
- E-room, including the control equipment and operation area containing also de main desk. The E-room will be a metallic container, hermetically sealed, to be installed in ATEX area, at the loading point. Total dimensions: 8.000 mm x 2.438 mm x 2.591 mm (width x height x depth).
- Detailed electrical diagrams and installation basic engineering including the rest of associated documentation.
- Factory acceptance test at our premises in Bilbao (Spain) .(F.A.T.).
- Installation supervision, commissioning and training on-site (Antipinsky Oil Refinery -Russia).

Coke Handling

Control Diagram

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User OPERATOR_01

COKE HANDLING SYSTEM

By-Pass

MCC 1 MCC 2

MAN MAN

Circuit 2 - Wagons Loading

Emergency Local Remote

Manual Start Auto Start

Auto Start_Seq>Loading Vendors

Circuit 1 - Stacking

Emergency Local Remote

Tripper to Init Pos Automatic Starting Seq.

Tripper Automatic Work Automatic Stopping Seq.

Lubrication

Coke Crusher STOP READY

Automatic Starting Seq. Automatic Stopping Seq.

Material In Line

Storage Area 0.00 T/h 0.00 %

Hoppers 0.00 T/h 0.00 %

Train Wagon 0.00 T/h 0.00 %

EXTF (external error) CPU Slave Led CPU Status
INTF (internal error) CPU Slave Led CPU Status

11-CHS_05N 11/04/16 09:54:06 11-CPU_LED_ST_00
11-CHS_05N 11/04/16 09:54:06 11-CPU_LED_ST_00

ACK

MAIN PLANT VIEW

The diagram illustrates the coke handling system layout. It includes several key components:

- Wagons Loading:** Involves components like BC-06, BC-07, and BC-08, with associated motors (M) and sensors (S).
- Crushing and Stacking:** Features a coke crusher (302X-020-TSH-3201) and multiple stacking points (302X-020-ZSH-3312A through 3314.2).
- Lubrication:** A central system (302X-020-M3300) with various lubrication points (LUBRICATION) and sensors.
- Material Handling:** Includes hoppers (302X-020-M3000, M3001), conveyors (BC-01, BC-02, BC-03), and a vibrating feeder (140.0 T/h).
- Extraction and Feeding:** Shows an extracting feeder (175.0 T/h) and a load buffer hopper (BF-01).

SEQUENCE C1

START READY STOP

TRIPPER-AUTO WORK RUN READY STOP SEMI

TRIPPER TO INIT POS RUN STOP SEMI INITIAL POINT 95 m FINAL POINT 100 m

SEQUENCE C2

START READY STOP

LOAD BUFFER HOPPER AUTO STARTING RUN STOP SEMI

BC-07 AUTO STARTING RUN STOP SEMI

AUTO STOPPING RUN STOP SEMI

SEQUENCE C3

START READY STOP

STACKING AREA AUTO STARTING RUN STOP SEMI

AUTO STOPPING RUN STOP SEMI

Start General Sequences Drives Auxiliars Trends Alarms Help Maintenance Safety

Zone Language