

COMPANY PROFILE



Zircono Company Limited

บริษัท เซอร์โคโน จำกัด

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Company in Brief

Zircono Company Limited (Zircono) was established in late of 2003. We are engineering and construction company. In decade, we have had several kinds of engineering design works and construction works. We provide the services by professional engineer who has experience and skill in the particular work whether design or construction works. We have experience with customers in Thailand and other countries (such as Germany, Vietnam, India, etc.)

For decade, Plant design engineering either vertical process or horizontal process is one of our strength which included process plant, utilities plant, tank farm, warehouse and auxiliary plant. We serves our business in widely kind of customers such as power plant, solar power plant, petrochemical plant, polymer plant, chemical, semi-conductor, consumer product as well as general factory.

Our designed plant able to be designed based on 3 - dimensional modeling concept which enable client to review, comment and walk through to investigate constructability, safe operation and easy maintenance. Plant model is also valuable tool especially during construction phase, it present graphical vision which is clearer than normal drawing paper do.

In the recent years, we have expanded the business to construction and erection services in mechanical, piping, electrical, control and instrument system for the relevant experience of design. The focused customer will be industrial sector whether petrochemical, pulp and paper, chemical and general production. The customer will be either convenience to develop the project in the one contract as EPC contract or confidence in the construction service based on our engineering design experience.

Corporate contains expert engineer staff in process, mechanical, structural, piping, electrical and instrument, commissioning and construction supervision.

Our business is operated based on engineering professional, commitment and client satisfaction.

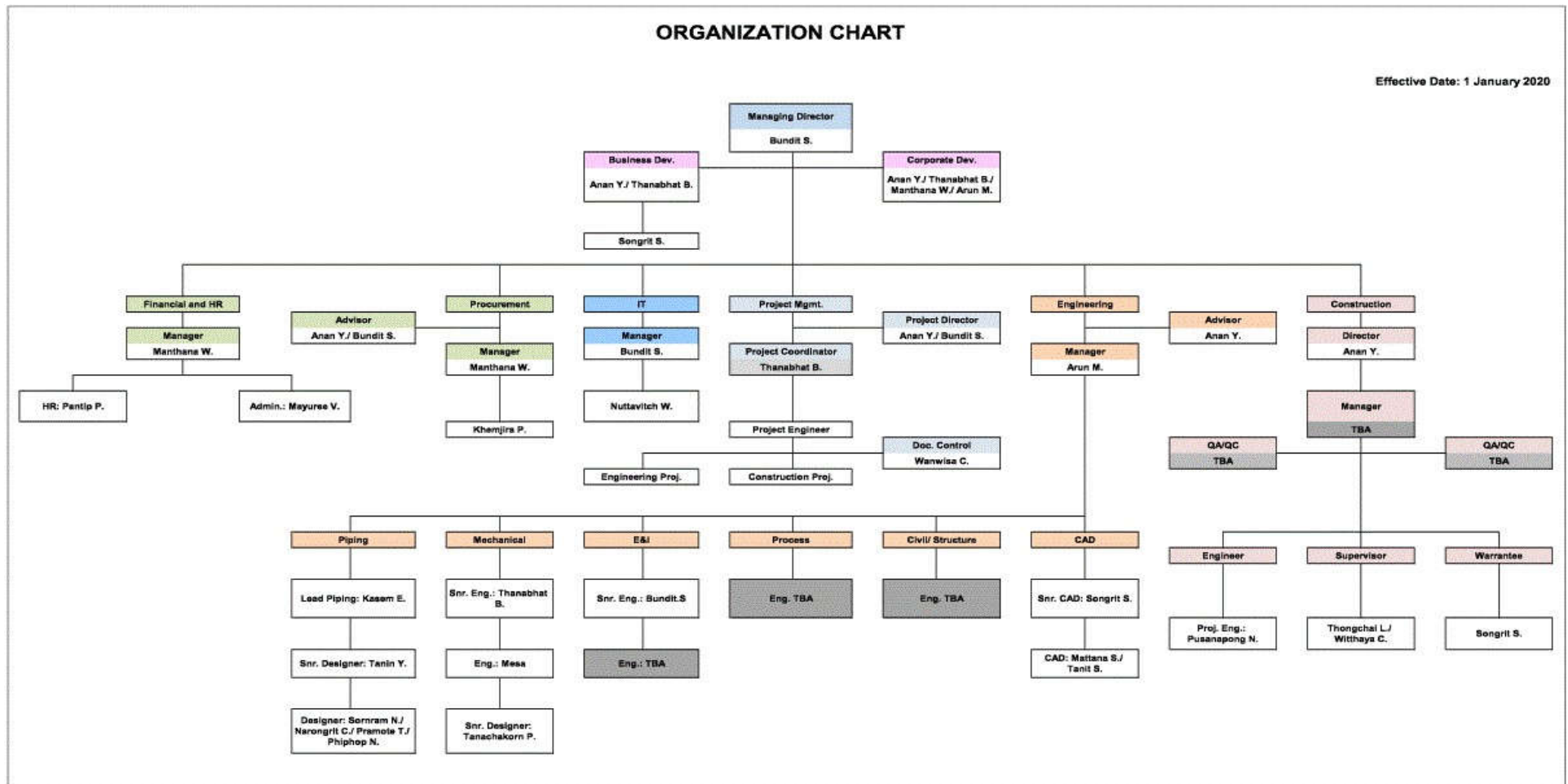
Company Information

Company Registration no.: 0105546140291

Capital Investment: 5,000,000 THB (fully amount paid)

Bank Account: Bangkok bank PCL.
Onnuch Branch

Organization

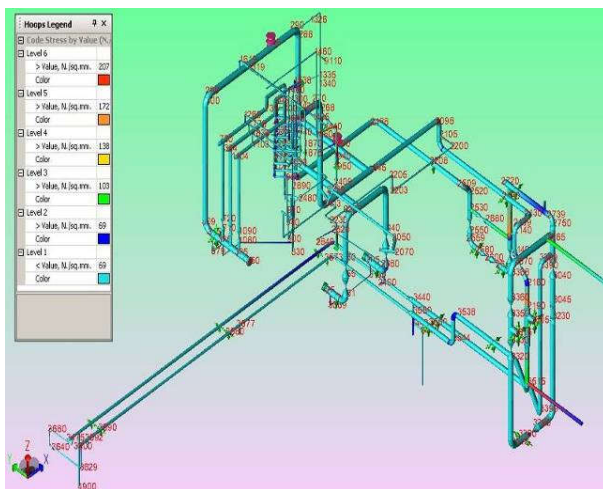


Capability Engineering Services



Equipment

Equipment design – vessel, silo, tanks
Equipment specification
Material selection
Fabrication drawings
Rotating equipment specification
Technical evaluation



Process

Design basis
Process and instrument diagram P&ID
Process flow diagram PFD
Hydraulic / pressure drop calculation
Equipment lists
Data for equipment
Process calculation / utilities consumption
List of consumption figure
Fluid data
Process data for final control elements

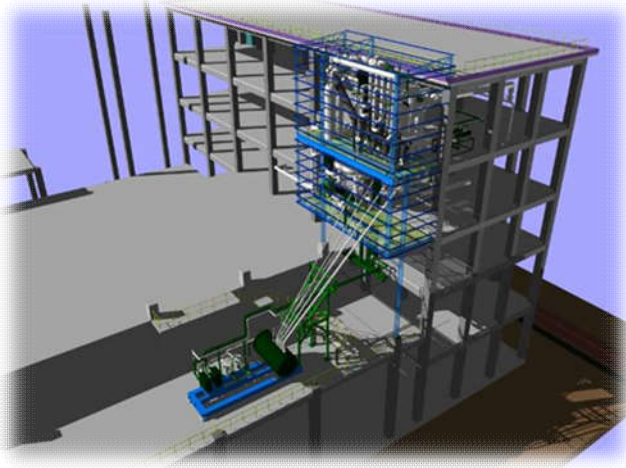
Piping

Piping specification in various standard
B31.1, B31.3 etc.
Insulation specification
Piping lists
Stress Analysis with CAESARII software
Nozzle orientation
Isometric drawing with MTO by Auto PLANT
Specification required for pump data
Specification for special parts
Piping 3D modeling
Piping arrangement drawings
Pipe supports specification and detail drawings
Document for erection

Instrumentation

Control concept
Instrument loops
Control function, signal and alarm
Installation plan for field instrument
Instrumentation specification
Specification for engineering service
DCS, PLC system
Document for erection

Capability *Engineering Services*



Electrical

- Single line diagrams
- Electrical equipment specification
- Cable routing diagram
- Consumption load
- Typical installation drawings
- Short circuit analysis
- Lighting system
- Lightning / Grounding system
- Material Take off

Plot plan and equipment layout

- Overall plot plan
- Equipment arrangement plan
- Loading data
- Room specification
- Steel Structure detail
- Concrete Structure detail
- Underground coordination plan
- Document for erection

Structural works

- Material specification
- Surface coating specification
- Structural calculation
- Load case analyze
- Loading data
- Installation / typical drawings
- Assembly drawings
- Fabrication drawing
- Material Take off



Capability *Construction Services*



Construction Services

- Execution plan
- Mobilization plan
- Inspection test Plan
- Quality control
- Construction procedure
- Safety supervisor
- Manpower loading and planning
- Daily construction control
- Progress measurement report
- Trouble shooting
- Material / inventory control

- Process Piping Erection (Carbon Steel/ Stainless Steel)
- Utilities Piping and Ducting Erection
 - Chilled Water/ Cooling Water/ Compressed Air/ HVAC
 - Sanitary
 - Fire Fighting
 - HV/ MV/ LV Electrical System
 - Security System (CCTV/ Fire Alarm/ Access Control)
 - Communication System
- Equipment Erection
- Electrical Erection for MV/ LV system
- Control and Instrument Erection
- Supervision and Commissioning

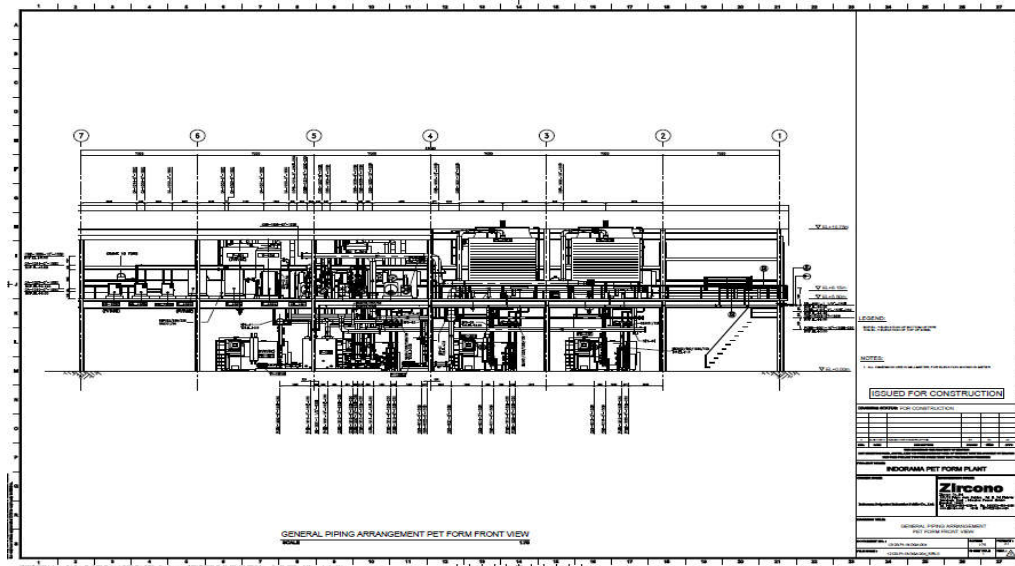


Scope of Services

DETAILED DESIGN

Services scope: *Piping/ Mechanical/ Electrical/ C&I*

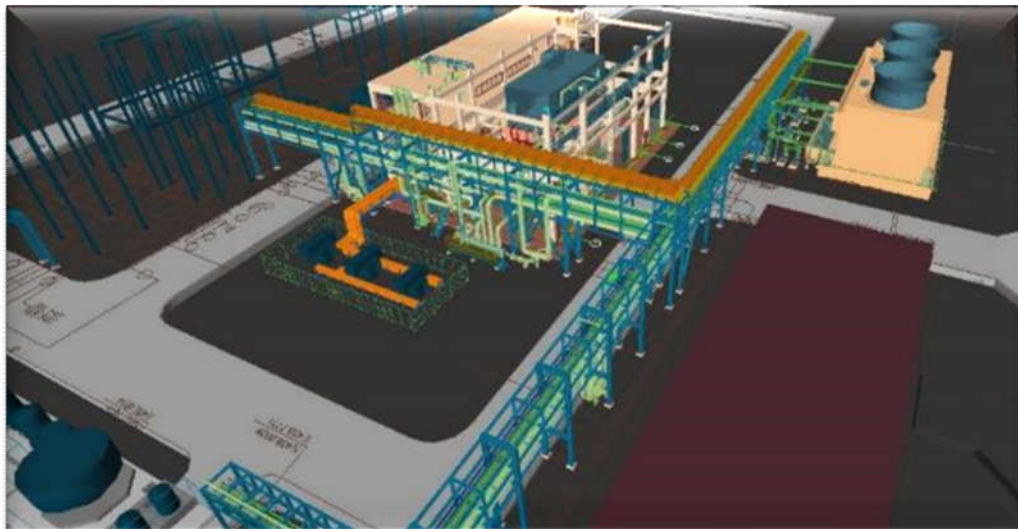
Services capability: *Provision of Detailed Design, Calculation, Data Sheet as well as Specification*



OWNER ENGINEER/ EPCM

Services scope: *Piping/ Mechanical/ Electrical/ C&I*

Services capability: *Provision of Conceptual Design, Tender, MTO, Evaluation, Procurement Assistance as well as Construction Management and Supervision*



Scope of Services

CONSTRUCTION AND ERECTION

Services scope: *Piping/ Mechanical/ Electrical/ C&I*

Services capability: *Construction and Erection*



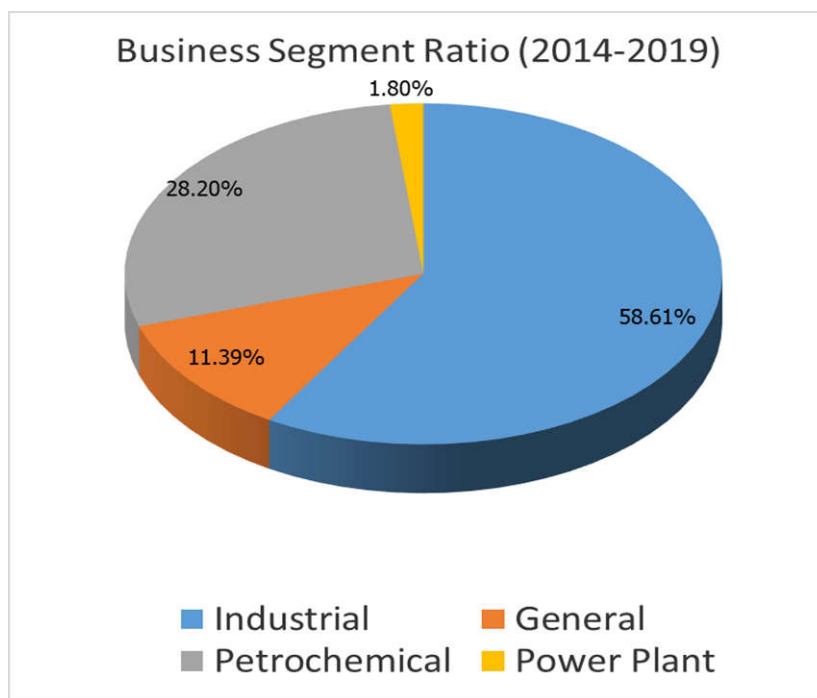
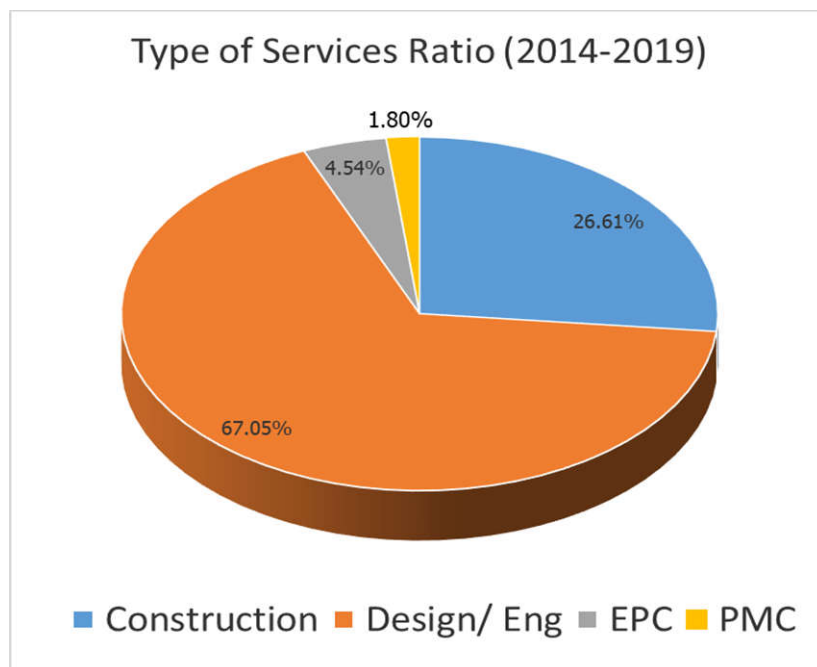
EPC

Services scope: *Piping/ Mechanical/ Electrical/ C&I*

Services capability: *Provision of Detailed Design, Procurement, Construction and Erection*



Scope of Services



Note: Ratio is number of project comparison

Selected Projects Reference *Engineering Services*

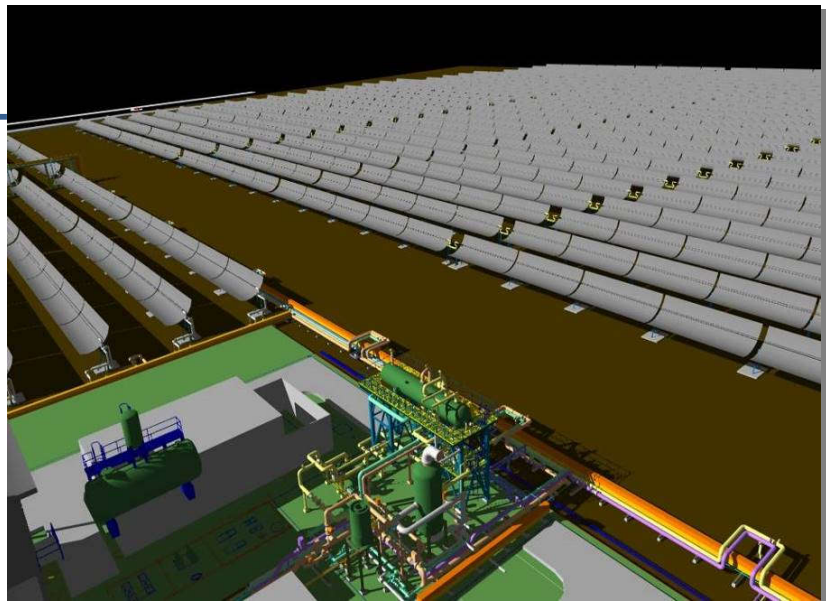


2010-Vung Ang I 2X600 MW TPP in Vietnam

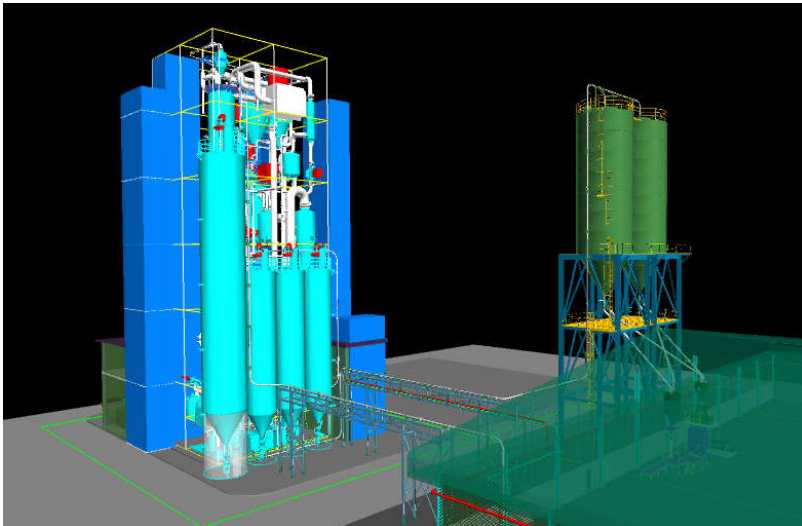
Zircono worked under Torishima. The scope of works are design for Main cooling water system supply from sea intake structure via 2x3500 mm dia. Pipes, main cooling pump house and discharge channel. Responsible for hydraulic transient analysis, computerized flow dynamic and civil input information.

2010-Solar Power Plant

Plant located in Kanchanaburi with the area of 165,000 sq. m. Plant can produced electrical power at 4.5 MW. Number of solar cells is 788 in totally. The scope of works were plant layout design, piping design and stress analysis.



Selected Projects Reference *Engineering Services*



INDORAMA
VENTURES

2011-SSP Plant in Nigeria

The scopes are engineering services for re-build SSP plant and re-install PET Form machine in Nigeria, which can be abstracted from contracts as below.

SSP Plant:

- Engineering services for re-build a SSP plant, which major equipment will be shipped from Offenbach, Germany to Nigeria. The service will not exclude civil and structural design works.
- In addition to above services, there are designs of 2x400m³ PET Chip silos, conveying of PET chip to bagging machine, Utility design to facilitate the plant.
- To provide necessary civil input to CDA to do detail design of civil and structural works
- Piping design for process to follow DIN standard, except utilities that follow ANSI standard.



2014 - Sermsang Palanghan 40 MW Solar Power Plant

Plant located in Bangkok. The scope of works were:

- Design 115 KV system to connect with PEA grid
- Design 22 KV system
- Design Grounding system for the Plant
- Design Lightning protection for terminal substation
- Design Control and Protection System



Selected Projects Reference *Engineering Services*



Thai Cane Paper Public Company Limited

2013 - 2014

Interconnecting Piping Design for Co-generation Plant

The Project is Location in TCP, Wangkanai, Kanchanaburi

The scope of works were

- Basic and detail design for interconnecting piping and process pipe work for 65 t/h new power boiler (PB#2), new turbine generator (TG#2), existing boiler (PB#1), and existing turbine generator (TG#1) including heat and mass balance, pipe sizing, piping stress analysis, steam header strength calculation, and pipe rack connect from existing to new plant strength calculation.

Selected Projects Reference

Design and Construction Services

2012 – 2013

SRF BOPET Film and Metallization Plant



SRF BOPET Film and Metallization Plant Project, The Project was started on 2012 at HESIE in Rayong province.

Scope of design works was M&E Utilities system design on behalf of Poyry Energy Ltd. The design works comprise 22 kV Incoming Electrical System, Main Power System for Process Equipment, Grounding and Lightning Protection System, Lighting System, Small Power System, Communication System, Fire Protection and Fighting System, HVAC System, Compressed Air System, Hot Oil System, Cooling Water System, Sanitary System as well as Water Treatment Plant.

Scope of Construction works was man power supply for Piping Erection (CS, SS) for hot oil system, cooling water system, chilled water system, compressed air system, chips conveying. The piping works are more than 20,000 DB.



Selected Projects Reference

Design and Construction Services



2013

PET Blowing Plant *INDORAMA* VENTURES

PET Blowing Project, The Project was started on 2013 in Prathumthani province.

The Contract is Engineering, Dismantling and Erection services. The scope of works were

A) Design Services

- Piping Design for Utilities System such as Steam, Chilled Water, Cooling Water, Compressed Air, Service Water as well as pipe stress analysis
- Mechanical Design for Utilities System

B) Erection Service

- Dismantling the existing blowing process equipment for moving to new place as total weight about 110 Tons
- Transportation service the dismantling equipment to new place
- Erection of blowing process machine and supplementary equipment, utilities machine as total about 160 Tons
- Erection of pumps/ tanks/ piping (relative design works)

Selected Projects Reference

Design and Construction Services



2013 – 2014

TCP2-Sludge Drier Plant



Thai Cane Paper Public Company Limited

Sludge Drier Plant Project, The Project was started on August 2013 at Thai Cane Paper PCL Plant in Prachinburi province.

The Contract is EPC services. The scope of works were

A) Design Services

- Architect/ Civil/ Structure Design for Sludge Drier Building area as 450 sq.m, Sludge Belt Conveyor Structure, Machine Foundation, Drainage system and Pipe rack
- Piping Design for Utilities System such as Steam, Condensate, Cooling, Compressed Air, Service Water as well as pipe stress analysis
- Mechanical Design for Utilities System
- Electrical Design for Lighting, Small power, Lightning Protection as well as General Communication

B) Procurement

- All material for Architect/ Civil/ Structure works
- All material for Piping works
- Pumps and Tanks
- All material for relative design electrical works

C) Construction and Erection

- Construction of building/ pipe rack/ equipment foundation/ belt conveyor structure
- Erection of drier machine (110 Tons)/ supplementary equipment/ pumps/ tanks/ piping (relative design works/ electrical system (relative design works)



Selected Projects Reference

Design and Construction Services

2014 Sirichai Poultry Rendering Plant

Plant located in Samut Sakhon province.

The scope of works were

- A) Construction Services
 - Piping and Ducting/ Erection Works.
 - Machine Erection Works.
 - Electrical & Instrument Installation
 - Insulation Installation
 - Material Supply
- B) Design Services
 - Compressed air system for the plant



Selected Projects Reference

Design and Construction Services



2015

IECL- Mechanical & Electrical Refurbishment

Plant located in Prathumthani province.

The scope of works were



- A) Construction Services
 - Verification of existing plant for reoperation.
 - Refurbish work for Mechanical System
 - Including to Silo/ Stack/ Pump/ Condenser/ Utilities
 - Refurbish work for Electrical System
 - Including to Power/ Lighting
 - Refurbish work for Structure
 - Including to Operating Platform and building



Selected Projects Reference

Design and Construction Services



2015 SEAPAC – RTO & WHE Project



Plant located in Samut Sakhon province.

The scope of works were

- A) Design Services
 - Process Equipment Foundation and control room building
 - Provision Piping Routing for Construction
 - Provision E&I Routing for Construction
- B) Construction Services
 - Civil work for Equipment Foundation
 - Process Machine Unloading and Erection Works (total weight 90 Tons)
 - Process and Utilities Piping Erection
 - Including to steam pipe, cooling pipe, exhaust pipe, water pipe, etc.
 - Installation of Electrical Power Feeder for Process and Utilities Machine



Selected Projects Reference

Design and Construction Services



2016-2017

Morakot Centralized Loading Facility



Plant located in Samut Prakarn province.

The scope of works were

To supply, Install, Commission & Guarantee For Centralized Loading Station & Related Mechanical, Civil & Electrical Works.

Selected Projects Reference

Design and Construction Services



2017

UAPC Extension Process Capacity Project



Plant located in Nakornratchasima province.

The scope of works were

The Scope of engineering design services for industrial adhesive production and utilities system include the detail design and necessary engineering documents required for procurement

The Scope of Mechanical and Piping Supply and Erection service of the production and utilities inside the battery limit including to testing and commissioning.

Selected Projects Reference

Design and Construction Services



2019

IRPL – DBN CP (Equipment and Piping Erection)

Plant located in Amphur Nikompatana Rayong, Thailand

The scope of works were

- 1) Engineer: Detailed Design according to P&ID from licensor
 - Modification Plant Model (3D)
 - Detailed Design Machine Relocation Layout (2D)
 - Detailed Design Piping Modification Layout (3D)
 - Provision of Piping Isometric for Construction (2D)
- 2) Construction => Modification Existing CP Production:
 - Remove Existing Machine and Piping
 - Modification Existing Piping
 - Modification Esterification Process Column and Paste Preparation Vessel
 - Erection of New Machine (around 150 Tons)
 - Erection Piping Erection Work (around 21,000 DB) for CP Production and utilities system inside the battery limit (ISBL)

Selected Projects Reference *Construction Services*



2018 Nupro Installation Work

Plant located in Chonburi, Thailand

The scope of works were

Erection Machine (around 180 Tons)/ Installation of Piping (around 1,000 DB) and Ducting/ Supply and Install E&I system for poultry production and utilities supply. The work was done under foreign licensor supervision.

Selected Projects Reference

Construction Services



2019

IRPL – New SSP (Equipment and Piping Erection) **INDORAMA**
VENTURES

Plant located in Amphur Nikompatana Rayong, Thailand

The scope of works were

Mechanical Erection (around 260 Tons) and Piping Erection Work (around 26,000 DB) for SSP Production. The work was done and coordinated with foreigner licensor.

Selected Projects Reference

Project Construction Management



2015 - 2016

IPI_ESFV Plant_PMC

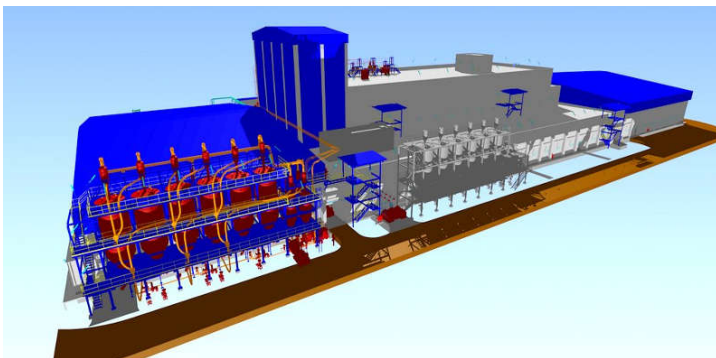


ES FIBERVISIONS

Plant located in Rayong province.

The scope of works were

- Provide Construction Management Team at Site to control the installation work of mechanical, piping, electrical, instrument, HVAC, Fire Fighting, Equipment, Silo, Conveying System, and Building Work.
- The work including quality control, verification of progress of work, meeting, schedule planning and reporting.
- Overall Contractor is approximately 15 companies
- The work cover period until Mechanical Completion (November 15-June 16)



Certification

1) Green Industry from Ministry of Industry (Thailand): 2019



“Value added Engineering Partner”

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