



Manjung 4, Malaysia



The plant is located in Manjung, Perak State, approximately 207km Northeast of Kuala Lumpur.

The plant is owned by TNB Janamanjung Sdn Bhd, a subsidiary of Malaysia's state-controlled power generation, transmission, and distribution company Tenaga Nasional Bhd (TNB).

In this power plant, FERBECK has been awarded an EPC contract of a 200 meter-high-concrete chimney by Mudajaya Corporation.

Ferbeck is involved in Manjung 5 concrete chimney and silo projects in 2015 and performed an inspection in 2022. The result of the inspection is positive, and the plant is operating perfectly.

FERBECK's scope of work includes:

- foundation
- concrete shell
- outer shell coat
- steel platforms and walkways
- borosilicate as internal protection
- all other steel elements (doors, windows...)
- access lift ladders
- electric system (lighting, inner power supply, aircraft signalization lamps...)
- lightning protection system

Key facts about the plant

- 1x1000 MW ultra-supercritical coal fired power plant
- Owner: TNB Janamanjung Sdn Bhd
- Contractor: Mudajaya Corporation



MUDAJAYA CORPORATION BHD

Key facts about the chimney

- Completed in 2014
- Concrete chimney
- Bottom conical to top cylindrical shape
- H 200m
- Outer Ø = 20.1m (bottom), 15.1m (top)
- 1 carbon steel liner, Ø = 8,300mm with borosilicate protection



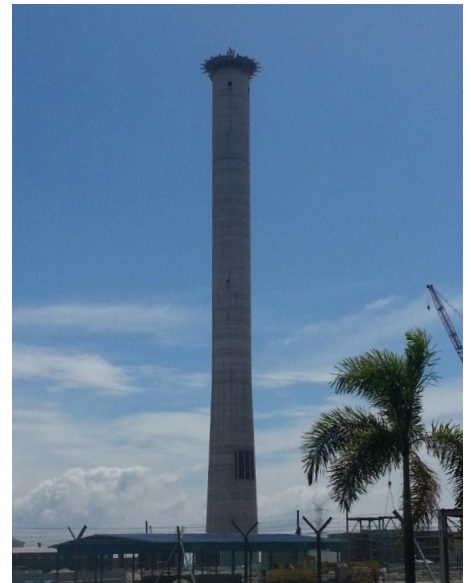
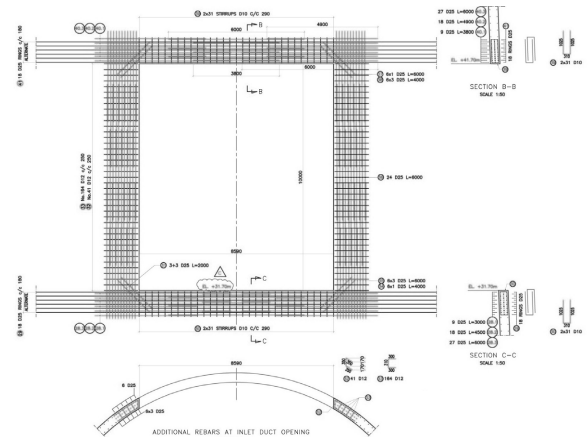
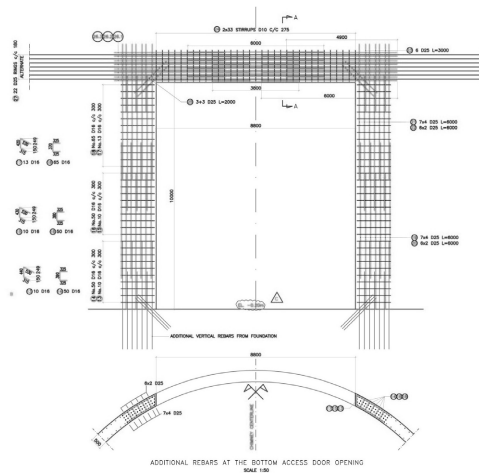


Concrete shell

The outer concrete shell is made of 2,950 m³ of concrete with and 350 tons of steel reinforcement the following size:

- h 200m
- 20.1m (bottom), 15.1m (top) of external diameter

The casting is performed with a slipform operating 24/7.

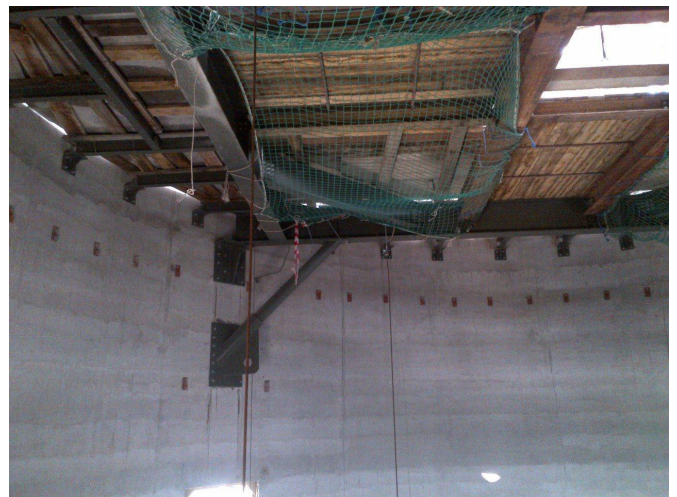
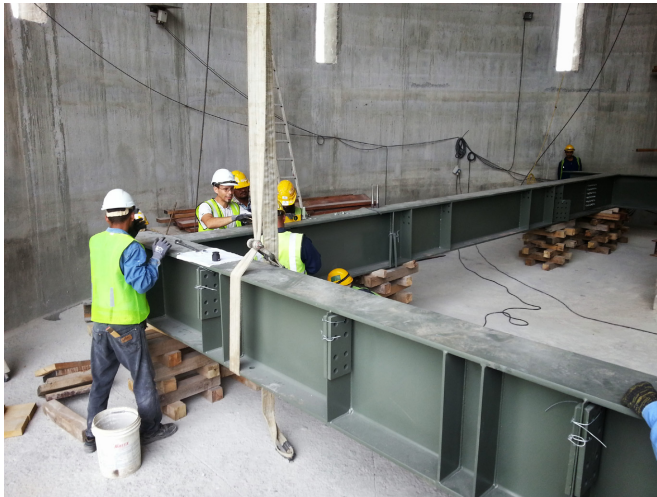




| Platforms

4 platforms and 2 walkways are installed inside the structure:

- roof platform at EL.+193.5m
- support platform at EL.+188.2m
- AWL maintenance circular walkway at EL.+104.8m
- guide platform and CEMS at EL.+69.8m
- expansion joint inspection platform at EL.+47.3m
- inspection walkway at EL.+30.1m





Liner

The steel liner diameter is 8,300mm until EL.+194.5m. To optimize the natural draft in the liner, a divergent exit is installed, expanding the diameter from 8,300mm to 11,550mm.

This diverging section is one of the most challenging part of the installation; due to a last minute revision of draft data when the steel liner was already installed, the bolted panels are assembled at top.





| Overview of the plant

The power plant is the first 1,000 MW ultra-supercritical coal fired power plant in South-East Asia. It is the extension of the previous Manjung coal power plant (3x700MW) that went to operation in 2004.

