



Manjung 5, Malaysia



The power 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 and a 38-meter-high-concrete silo by Daelim Industrial Co. Ltd.

FERBECK had previously accomplished Manjung 4 concrete chimney and concrete silos*.

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 and ladders
- electric system (lighting, inner power supply, aircraft warning lights, etc.)
- lightning protection system

Key facts about the plant

- 1x1000 MW ultra-supercritical coal fired power plant
- Owner: TNB Janamanjung Sdn Bhd
- Contractor: Daelim Industrial Co. Ltd.



TENAGA
NASIONAL



DAELIM

Key facts about the chimney

- Completed in 2016
- Concrete chimney
- Bottle shape
- H 200m
- Outer $\varnothing$ = 18.3m (bottom), 12.5m (top)
- 1 carbon steel liner, $\varnothing$ = 8,300mm with borosilicate protection



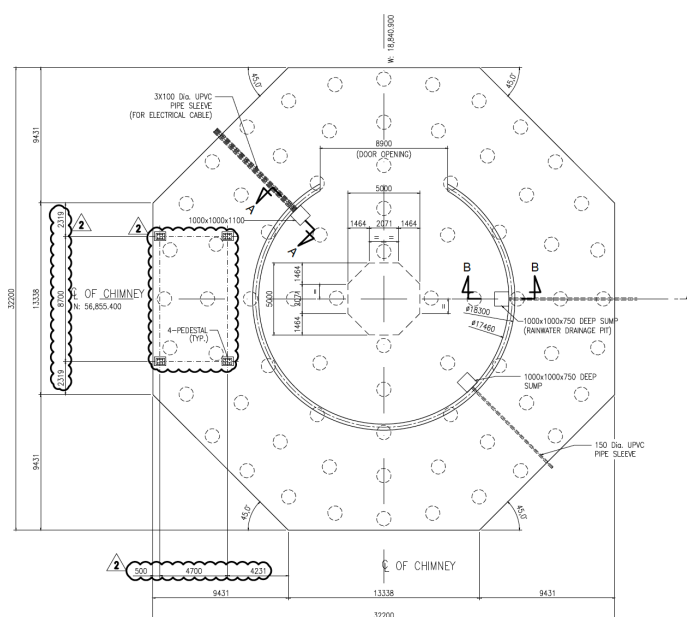
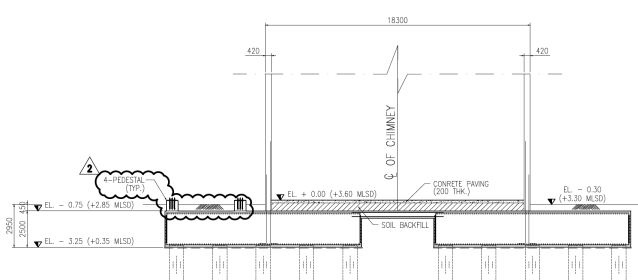
* see Manjung 4 concrete chimney and concrete silos project reports



Foundation

The foundation is made of 2,100m³ of concrete with the following size:

- 32.2m x 32.2m
- h 2.5m at EL.-3.25m



FOUNDATION — GENERAL LAYOUT
SCALE 1:150

Concrete shell

The outer concrete shell is made of 2,700m³ of concrete with the following size:

- 18.3m (bottom), 12.5m (top) of external diameter
- h 200m

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





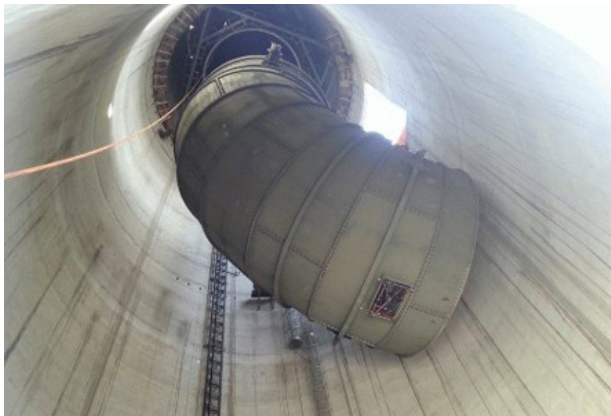
| Platforms

4 platforms and 2 walkways are installed inside the structure:

- roof platform at EL.+195m
- support platform at EL.+189.5m
- guide, AWL and CEMS platform at EL.+105 m
- guide platform at EL.+77m
- inspection walkway at EL.+34.5m
- expansion joint walkway at EL.+50m



| Liner



The chimney has 1 carbon steel liner with $\varnothing = 8,300\text{mm}$. The liner protection is borosilicate directly applied on internal surface.





Overview of the plant

The power plant Manjung (1x1000MW) is one of three ultra-supercritical coal fired power plant in South-East Asia. It is the extension of the previous Manjung coal power plant (3x700MW) which went to operation in 2004.

