



Case Study

Gas Separation Plant Chimney Design & Build - Thailand

AT A GLANCE

| | |
|------------------------------------|--------------------|
| Chimney Height: | 140m |
| Internal Steel Flues: | 1 |
| Internal Platforms: | 5 |
| Diameter of Internal Flues: | 4.7m |
| External Concrete Diameter: | 11.55m - 7.68m |
| Piles: | 41 Nos. x 25m deep |
| Pile Cap: | 15.8m x 2.5m deep |

Enhanced Efficiency



The newly constructed chimney ensures the safe and effective operations.

Safety Excellence



Achieved zero lost-time incidents with a highly-trained and managed workforce.

Engineering Innovation



Engineered for durability, safety, and compliance with international standards.

Project Overview

The Gas Separation Plant 6 (GSP6) in Map Ta Phut, Thailand is a key development by PTT Public Company Limited, Thailand's largest gas separation operator. With a production capacity of 800 MMSCFD, GSP6 plays a critical role in expanding Thailand's petrochemical industry, enhancing the utilisation of natural gas resources from the Gulf of Thailand.

Samsung Engineering Co., Ltd. was appointed as the main contractor, and BEC Holdings Ltd. was awarded the contract for the design and construction of the chimney, a vital component of the plant.

Challenges

Limited Construction Space – The site constraints required strategic logistics planning for material handling and sequencing of construction activities.

Complex Lining System – The 5.0m diameter internal liner was constructed with 316L Stainless Steel and required four entry connections, making alignment a critical challenge. Ensuring precise positioning demanded advanced fabrication techniques, meticulous quality control, and high welding standards.



Liner can installation



Slipform progress



Internal view of chimney

Owner

PTT Public Company Limited

Client

Samsung Engineering Co., Ltd

Completion Date

September, 2009

Detail of work by BEC

BEC was responsible for the complete design & build of the chimney, including:

- Piling and pile cap,
- Slipforming construction
- Heavy lifting of roof floors, and flues
- Installation of the internal rack & pinion hoist, aircraft warning lights (AWLs), internal lighting, and the lightning protection system.

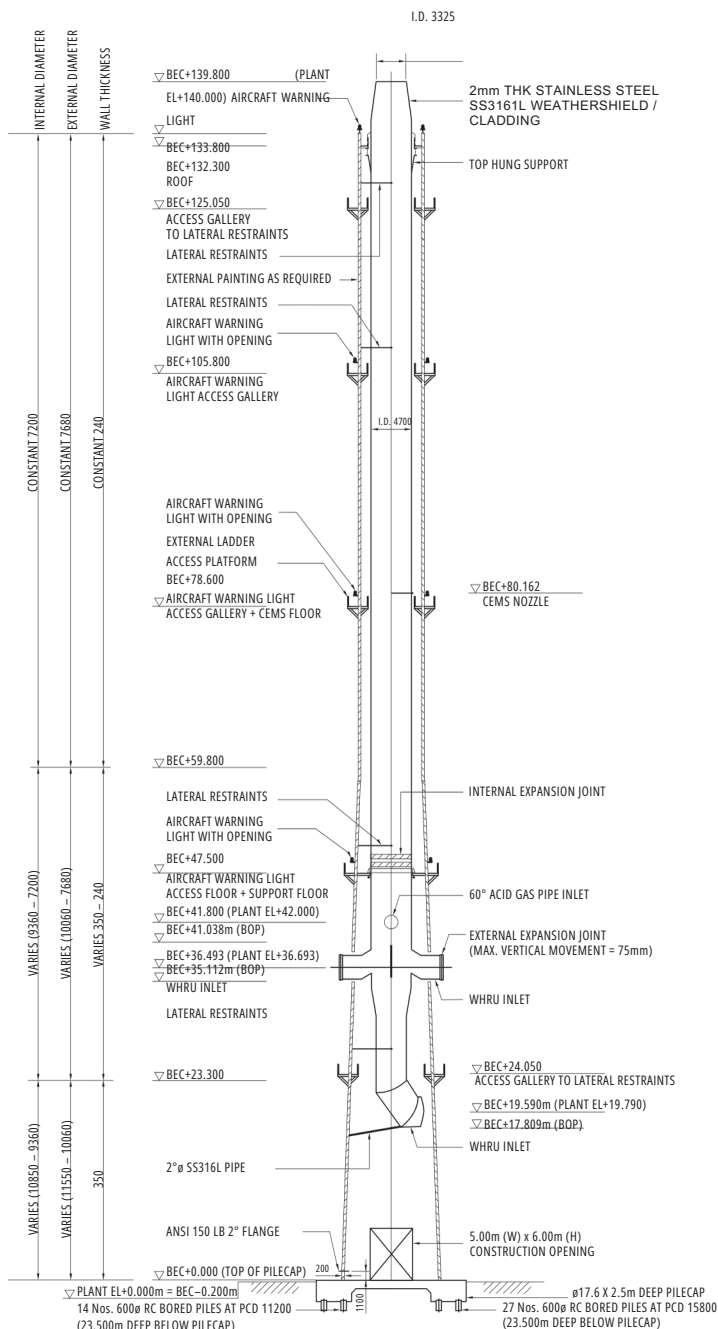
BEC optimised logistics and work sequencing to manage space constraints. Precision fabrication ensured accurate alignment and high-quality welding of the 316L stainless steel liner.

The BEC Advantage

- Delivered on schedule and within budget despite technical complexities
- Zero Lost-Time Incidents (LTI) – Safety-first approach
- Seamless integration with Samsung Engineering's project timelines
- Supports Thailand's natural gas production & national energy security
- High-precision fabrication & construction expertise

BEC specialises in designing and constructing vertical structures for the energy infrastructure sector.

Contact us today to discuss your next project!



BEC Group of Companies
 c/o 18 Boon Lay Way #10-162 TradeHub 21 Singapore 609966
 +(65) 6778 6858
 sales@be-con.com
 be-con.com