Case Study

Lamma Power Station Extension

Hong Kong

DATA AT A GLANCE

Chimney Height	110m
No. of internal steel flue	1
No. of internal platforms	4
Diameter of internal flue	6.0m
Internal concrete diameter	18.0m

Precision Engineering

Complex 110-metre-high chimney constructed with exacting standards, ensuring structural integrity.

Safe High-rise Execution

Jumpform technique and coordinated tower crane operations minimised risks at 110m height.

Sustainable Infrastructure

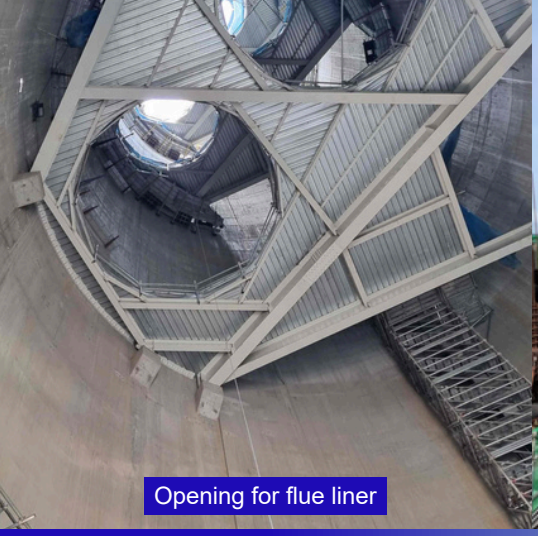
Contributes to Hong Kong's carbon emission reduction goals and transition to cleaner energy.

Project Overview

The Lamma Power Station Extension (Unit 12) Project is part of Hong Kong's commitment to reducing carbon emissions under the Climate Action Plan 2030+. This includes the construction of three new gas-fired power units. BEC was awarded the contract to construct Chimney No. 5, a key component of the project, which plays a crucial role in supporting the new natural gas power generation units. The chimney stands 110 meters tall and is designed to handle the emission control requirements of the new units, aiding in Hong Kong's shift toward greener energy production.

Challenges

- Construction carried out during COVID-19 lockdown, affecting supply chain and workforce availability, while requiring strict implementation of COVID protocols, quarantine measures, and on-site safety management.
- Chimney built on reclaimed land, requiring careful geotechnical planning and foundation design to ensure stability. Special considerations were needed for soil settlement, load distribution, and long-term structural integrity.
- Work performed at significant heights, introducing additional safety and logistical complexity.



Opening for flue liner

Jumpform installation

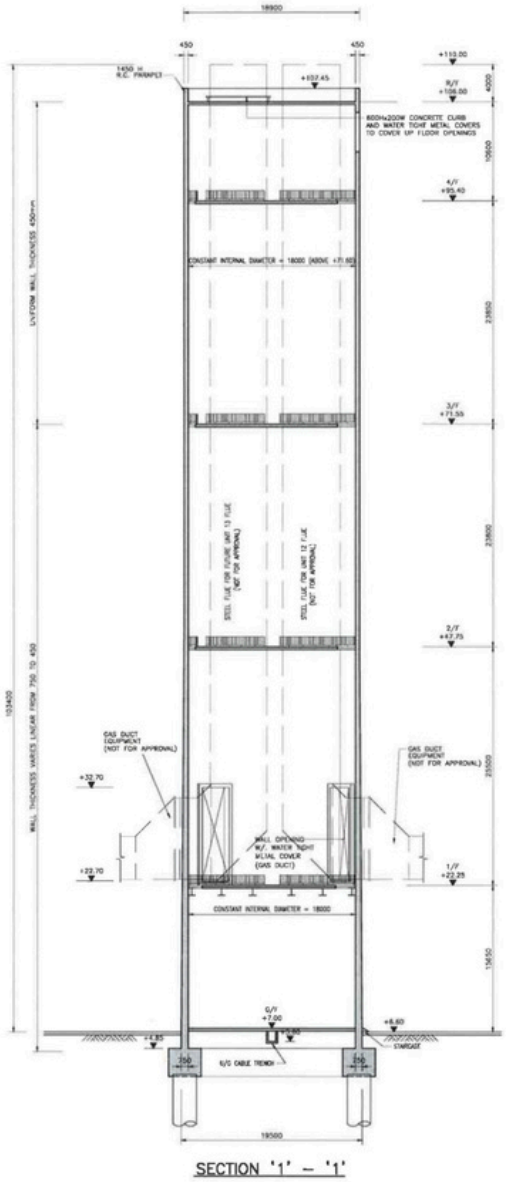
Lifting of flue liner

Owner

The Hongkong Electric Co., Ltd

Completion Date

March, 2024



Balanced Engineering & Construction Pte Ltd

Detail of work by BEC

The project was executed using the jumpform construction technique, in line with the client's preference. Key elements included:

- Lifting of roof and floors with a tower crane for precise, controlled installation.
- Design, supply, fabrication, and installation of the internal steel flue.
- Installation of insulation and exterior cladding for durability and performance.
- Strategic coordination to address site constraints, structural complexity, and safe high-rise operations.

The BEC Advantage

This emissions control structure was completed on schedule and to specification, demonstrating BEC's ability to deliver complex high-rise industrial structures safely and efficiently, even under the challenges of COVID-19. The chimney supports Hong Kong's transition from coal to cleaner energy. By successfully managing site constraints, structural complexity, high-rise construction risks, and pandemic-related protocols, BEC showcased its jumpform expertise and ability to adapt to client-specific requirements, reinforcing our reputation as a trusted partner for specialized industrial infrastructure projects.

Contact us to learn more about BEC's engineering solutions!

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