

Case Study

Slipform Construction of Chimney for Masinloc Power Plant Expansion
Philippines

DATA AT A GLANCE

Chimney height 155 m

No. of internal steel flue 1

No. of internal platforms 5

Concrete volume 2800 m³

Diameter of internal flue 5.4 m

Precision Engineering



Delivered a structurally complex 155-meter slipformed chimney with precise vertical alignment.

Safety Leadership



Zero lost time injuries through proactive safety planning, daily risk assessments, and disciplined execution.

Results that Matter



Met all delivery milestones with full transparency, quality assurance, and client coordination

Project Overview

As part of the Masinloc Power Plant Expansion in Zambales, Philippines, Balanced Engineering & Construction (BEC) was commissioned to design and construct a 155-meter single-flue environmental compliance chimney, a mission-critical component of the 335 MW thermal plant. This project contributes to the broader energy security strategy of the Philippines by enhancing base-load capacity.

The chimney was engineered using a vertical slipforming process, integrating structural steelwork, flue liners, roofworks, and mechanical & electrical systems, all under BEC's turnkey delivery model.

Challenges

- Complex Foundation Design: Designing foundations for a 155-meter-high chimney required geotechnical precision, high-load capacity detailing, and strict settlement controls to ensure long-term structural integrity.
- Slipform Tolerance and Wind Exposure: Maintaining vertical accuracy over 155 meters during slipforming required continuous monitoring and real-time adjustment, particularly during periods of seasonal typhoons and elevated wind conditions.



Owner

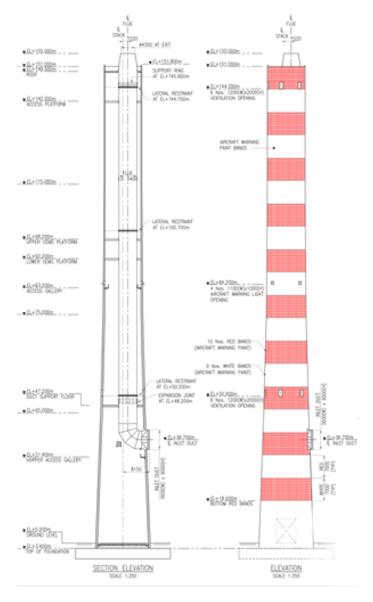
SMC Global Power Holdings Corp

Client

Formosa Heavy Industries (FHI)

Completion Date

March, 2025



Detail of work by BEC

From structural concrete slipforming to final mechanical and electrical installations, BEC provided a one-stop solution, managing design coordination, fabrication, and installation under strict quality and safety standards.

What we delivered:

- · Detailed design and engineering works
- · Slipform design of 155-metre single-flue chimney
- Fabrication and installation of internal steelwork and access systems
- Installation of flue liner and corrosion protection systems
- · Roof structure and ventilation components
- Supply and installation of rack and pinion access hoist
- Mechanical and electrical systems, including access lighting, lightning protection, and aviation lights
- Project management, quality assurance, and safety compliance throughout all phases

The BEC Advantage

BEC successfully delivered the 155-meter environmental compliance chimney on time, within budget, and with zero lost time injuries. The structure met all performance and alignment specifications, enabling seamless integration into the Masinloc Unit 4 commissioning schedule. Through disciplined slipform execution, integrated engineering delivery, and stringent quality controls, BEC reinforced its reputation as a trusted partner for complex vertical infrastructure in the energy sector.

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



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