



Ammonia Plant Compressor Building Ventilation Design Concept, Detailed Design, Commissioning

Client

Orica Kooragang Island

Project Location

Kooragang, New South Wales

Scope

Engenium's engagement was from Concept through to Detailed Design and Commissioning. The scope included all aspects of the mechanical ventilation system, such as acoustically silenced inlets and all panel, service penetration and roof specifications to meet attenuation objectives. This included Process and Drafting Modelling and Detailed Drafting. The project was part of a larger EPCM engagement to deliver a complete structure to house a steam driven air compressor turbine.

Business Objective

The intent of the project was to ensure that the compressor turbine package complied with existing boundary noise requirements, whilst removing a significant internal heat load and ensuring all safe ventilation level objectives were met.

engenium

smart project delivery

Demonstrated Capabilities

- Ability to prepare Concept Designs to meet the outcomes required by the client.
- Mixed process Detailed Design of mechanical ventilation system with acoustic design.
- The work was delivered on-time and on-budget.
- Successful Commissioning and Handover to client.

Challenges to Overcome

Unique challenges included the client's requirements to have little to no maintenance and low noise emission fans. In addition, the building environment posed very tight space restrictions.

Smarts

The engineering response to the client's challenges included the use of very low maintenance direct-drive low-noise emission fans to meet the pressure and flow duty requirements. All fan casings and ducting were fully galvanised to reduce risks of corrosion. All acoustic materials were specifically selected to minimise risk to employees of synthetic mineral fibres. The ducting design employed flow splitters to ensure low noise, low pressure drop design within the allowable space.

Project Outcome

The project was a complete technical success, with all flow, pressure and acoustic performance objectives being met.

Want To Know More?

For more information please contact our Newcastle office on +61 (0)2 4940 4100, email info@engenium.com.au, or visit our website engenium.com.au.

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