

# Offshore Platform North Sea

## The Challenge

When undertaking a heating, ventilation and air conditioning (HVAC) maintenance and upgrade contract on a North Sea offshore platform, RBG Limited identified that critical noise levels were apparent in a range of working areas.

Investigating the issue, RBG Ltd commissioned environmental sound testing, which revealed that ambient noise exceeded a specified minimum of 55dB (A) throughout the electrical workshop, store room, hydraulic workshop, subsea office and mechanical workshop, reaching its highest levels of 88-96dB (A) in the mud pit room. Additional noise generated by operating pumps, cranes and machinery would further increase the noise levels in these areas.

As such, RBG Ltd needed to source a high performance industrial acoustic solution that would sufficiently reduce the noise contamination and make the working environment acceptable. Seeking expert industrial acoustics advice, RBG Ltd briefed CMS Acoustics on the project parameters, who responded with a bespoke ISO Enclosure Panel system design.



ISO Enclosure Panels were installed to reduce critical ambient noise levels in a range of areas on the offshore platform.



## The Solution

The ISO Enclosure Panel is a prefabricated sound reduction system, designed to create noise-protected structures in industrial environments. A self-supporting and robust construction, it offers the additional benefit of a short assembly time, facilitated by the panels being lightweight and easy to handle.

The industrial acoustics technical team at CMS Acoustics calculated that a combination of 50mm and 100mm thick ISO Enclosure Panels would be required to achieve the specified noise reduction in the different areas. Depending on panel thickness, fire resistance ranging from 30 minutes to two hours can be achieved.

For RBG Ltd, CMS Acoustics manufactured the panels in white and supplied them in ready to assemble kits clearly labelled according to area for installation. Some panels were manufactured to allow removal for maintenance while others were designed to be stud welded to external walls.

To increase system robustness, CMS Acoustics integrated acoustic doors and vision panels into the ISO Enclosure design.

## Results

By clearly labelling the ISO Enclosure Panel kits, CMS Acoustics helped to simplify site construction and increase the efficiency of installation.

The ISO Enclosure Panel system also delivered superior noise control. Sound tests confirmed that a significant improvement on the specified minimum of 55dB (A) had been achieved, with an overall acoustic performance of 35dB recorded on-site.

Steven Ord, project engineer, RBG Ltd, comments: "Controlling noise levels on offshore operations is always a challenge as the ambient noise level starts at a higher point than onshore, and the acoustic performance of a product has to be balanced with robustness and fire protection.

"We were extremely impressed with the technical team at CMS Acoustics, who assessed our criteria and responded with the ISO Enclosure Panel System – an effective solution that far exceeded the specified acoustic performance."



**Northern Office,**  
Unit 4 Eagle Park, Eagle Park Drive  
Warrington. WA2 8JA  
t: 01925 577711 f: 01925 577733

**Southern Office,**  
Unit 9, Enterprise Way  
Wickford. SS1 8DH  
t: 01268 568762 f: 01268 568764

info@cmsacoustics.co.uk  
www.cmsacoustics.co.uk

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