

# Noise from 400 MW Power Station

A detailed acoustic study was required for a proposed 400MW combined cycle gas fired turbine power station near Cork in the south of Ireland. The plant permit condition issued by the Irish Environmental Protection Agency specified noise limits at the nearest receptors. The assessment therefore needed to advise the client on the most cost-effective way of ensuring compliance.

Noise levels were predicted around the plant using a complex computer model. Noise source assumptions were based on 1/3rd octave data, provided by GE Energy, and from measurements at similar sites. The computer model considered the complex terrain around the site, including a detailed site survey and contour information from the Ordnance Survey.

The computer model predictions confirmed that the main sources were the condensers, air intakes, fin fan coolers, transformers, stack exhaust and ventilation fans.

A number of detailed computer model iterations were conducted to identify and propose mitigation for critical noisy elements.

The dominant residual noise sources off-site were from the condenser fans and the transformers. The predictions were used to develop a procurement specification for the process.

