

RMS Trent Ports Crane



We often encounter industrial operations in relatively close proximity to dwellings in the UK. It is an inevitable consequence of the population and scale of these small islands. The population density is only going to increase and as a society our expectations for amenity and quality of life continue to rise over time.

The resultant tension between inherently noisy industrial activities and those who would rather not be disturbed by them often comes to a head, first in the form of complaints that when unresolved can escalate to local authority intervention, possibly leading to the service of an abatement notice for statutory noise nuisance.

In this instance we were appointed to address the noise impact on local residents, perceived to be caused by a new hydraulic

crawler crane at a nearby port on the opposite side of the river Trent.

Our detailed surveys concluded that a specific tone with a pitch around 80 Hz was being emitted from the crane's diesel engine exhaust and was thought to be the cause of the complaint.

Interestingly, (to us anyway) the 80Hz region in which the crane noise lies is the same as the open bottom E string of a guitar. It is the lowest note that the guitar can play (A bass guitar is a full octave lower.)

Our assessment was laser focussed on this specific tonal feature to provide a clearer demonstration of the potential impact of this source in particular, and latterly presented against an 'overall' BS4142 assessment rather than attempting to tackle all noise generated by the entire port operation.

Liaison with the crane operator, Local Authority and crane manufacturer, led to a bespoke exhaust silencer being designed, fabricated and installed to eliminate the problematic tone, removing the characteristic sound which has been attracting the attention of the residents.

The proof of the pudding was in the commissioning survey which demonstrated the tone had gone, and the Local Authority confirmed that *"...the residents no longer feel unduly disturbed in their homes"*.

