

Ambient Noise Mapping

Background

A large, integrated aluminum production facility in the Middle East was required by the local environmental agency and regulations of the International Finance Corporation to determine ambient noise levels at the plant.

Because the individual operating units at the plant were closely spaced, it was difficult to determine the exact source of noise and assign it to any particular unit.

CleanAir's Approach

CleanAir designed a test program modeled on ASTM E1014 to determine the sound contours emanating from the plant. Measurements were taken at 60 locations along the entire facility perimeter. Monitoring was done during daytime and nighttime periods as well as during weekdays and weekends. A predicted vs actual comparison analysis was conducted between the measured contours and those predicted pre-construction. CleanAir also monitored wind speed and direction during the noise monitoring campaign.

Results

Based on the acoustic maps generated during this study, the facility was able to demonstrate compliance with ambient noise level requirements and also reduce the frequency of future testing.

Summary

CleanAir designs ambient acoustic mapping program to assist a large international integrated aluminum facility in demonstrating compliance with regional ambient noise standards.

