

INTERMITTENT URBAN NOISE DISTURBANCE RESOLVED IN SEATTLE

The City of Seattle received numerous complaints from neighbours near an urban recycling plant, but noise levels never breached regulations when measurements were taken. Seattle needed a short-term noise monitoring service that collected data 24 hours a day to detect if acceptable levels were being exceeded so it could respond accordingly.



CHALLENGE

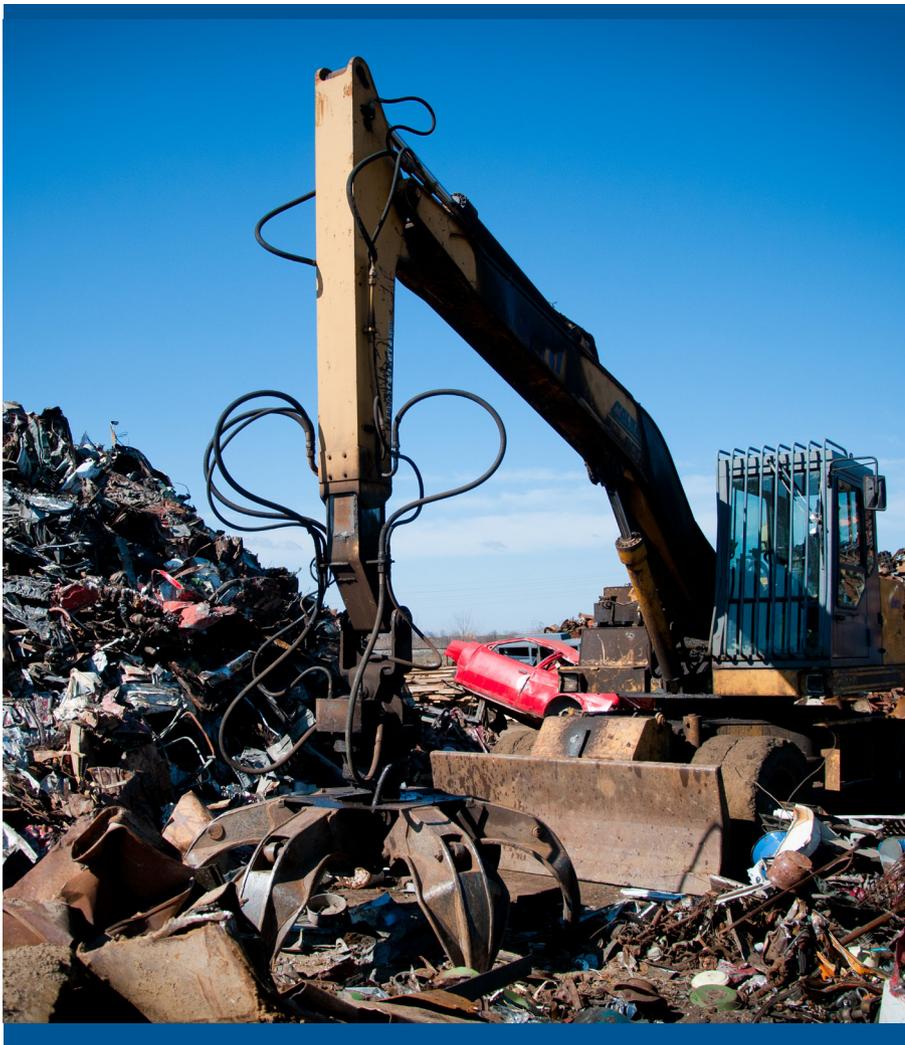
Determine the noise compliance of a loud facility whose intermittent breaches were difficult to prove.

SOLUTION

Noise Sentinel – On Demand, a short-term noise monitoring service, logged exceedances and identified the noise source.

RESULTS

The City of Seattle detected non-compliance and worked with the company to quickly resolve the noise issue and reduce complaints.





BACKGROUND

Seattle is a thriving city with a rapidly expanding population and business sector. As with most thriving cities, residents and businesses are increasingly sharing communal space. Such rapid growth is extremely beneficial to the city's economy. However, this growth has been accompanied by an increase in noise pollution.

Seattle's Department of Planning and Development's Noise Enforcement Program is tasked with balancing the needs of both residential communities and businesses. The department's control specialists review, investigate and evaluate noise complaints to determine adherence to regulatory restrictions.

The city received multiple complaints from residents living near a metal recycling facility. Code enforcement officials made numerous visits to the site and conducted measurements with a hand-held sound level meter, but they were unable to successfully detect a noise exceedence.

CHALLENGE

The City of Seattle sought to identify the noise source that generated a large number of complaints from the public.

After taking numerous on-site measurements, Seattle realised that spot checking noise levels was inadequate for resolving this issue. To know when a compliance breach occurred at any time, it required a different approach – one that logged data 24/7.

By taking continuous measurements that didn't require costly man hours, the city hoped to confirm or dispel the public's complaints and effectively enforce noise codes.

THE SOLUTION

Seattle deployed Noise Sentinel – On Demand, Brüel & Kjær's subscription noise monitoring service.

The web-based service enabled Seattle to lease all the monitoring equipment it required – eliminating the need to invest in expensive instrumentation that lies idle when not needed.

"We set up the system in a matter of minutes and didn't have to regularly check it was working since Brüel & Kjær took care of that as part of our service," said James Dasher, a Seattle noise control specialist.

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David George

Noise Sentinel – On Demand monitored sound levels emanating from the metal recycling plant 24/7 and rapidly detected that the facility was not in compliance with noise regulations. Its continuous monitoring didn’t require an acoustical expert to remain on-site freeing up valuable human resources.

RESULTS

The City of Seattle achieved results from Noise Sentinel – On Demand in two ways.

First, it easily measured the noise levels required to conclusively prove the facility was not in compliance with regulations. Armed with this data, the city had the proof it required to mediate the situation.



“The Noise Sentinel service allowed us to set an L_{max} trigger decibel level to record .wav files of exceedences, which allowed us to pinpoint the specific activities and times we were after,” Dasher explained.

Second, Noise Sentinel – On Demand supplied much-needed data that enabled the city to partner with the business. Together, they detected what was causing the complaints.

The annoyances were caused by a combination of traditional metal recycling activities including metal on metal crunching, metal dropping into metal bins and loading and unloading of materials to be recycled.

“Once we identified the noisiest operations by using Noise Sentinel’s .wav file trigger, the recycler addressed those activities first and carried the same ideas throughout the whole metal recycling operation,” said David George, a Seattle noise control specialist.

“We were able to solve a neighbourhood problem by assisting the violator with direction toward compliance. That’s the strategy a solution-oriented regulatory agency should pursue, if the violator is in agreement,” George added.

The facility was rapidly able to adjust operations to maintain compliance and resolve the issue. Actions taken included revising on-site operating procedures and retraining employees.

Complaints subsequently decreased from more than 50 to less than two per month.



Because the problem with this site was efficiently solved in a few weeks, the city was able to transport its Noise Sentinel – On Demand equipment and use it for a second project during its rental term.

ADDITIONAL RESULTS

In this subsequent instance, Noise Sentinel – On Demand was deployed to monitor sound levels from a different metal recycler that continuously refused to mitigate its noise. Although this company had a significant number of complaints from neighbours, it had refused to accept responsibility for its impact.

Data from monitoring its noise contributions was used to rapidly resolve the problem at this second project site. It only took three days to provide enough insight to anticipate when exceedingly loud noise would occur.

“We had a difficult time responding to complaints generated by this business. The noise was infrequent and very loud. Not only was the noise code being violated, but so was the permitted use of the parcel. Once we had

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David George



a pattern of when noise and use violations took place, we were able to be on site when the use violations took place,” George said.

“After reviewing the .wav files generated by the system’s trigger recorder, I was able to give our Zoning Inspector two 30-minute windows that would result in him seeing illegal use of the property. He waited for less than 10 minutes and caught them,” George added.

“The cat and mouse game had been going on for almost three years. Thousands of dollars were spent trying to catch the violator prior to using the Noise Sentinel. With it,

Code Enforcement and Noise Abatement had the information to stop the violator from continuing their bad behaviour.”

CONCLUSION

Noise Sentinel – On Demand provided the noise monitoring required to successfully determine that an urban recycling plant was non-compliant with noise regulations.

Precise sound level measurements and actual audio recordings helped identify the issue for a fast resolution. Nearby residents are no longer impacted by the disturbance and complaints about the facility have ceased.

The service provides everything the city required. Seattle didn’t have to purchase costly noise monitoring equipment, train personnel on how to take measurements or log on-site man hours to obtain the results from both projects. This freed up human resources to monitor noise elsewhere.

Because the city solved the first matter so quickly, it was able to receive additional value from Noise Sentinel – On Demand by resolving an issue at a second site during its rental duration. The City of Seattle saved time and money while attaining efficient results.



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