

# THE ENVIRONMENT AGENCY AND NIAs FOR ENVIRONMENTAL PERMIT APPLICATIONS – WHERE ARE WE NOW?

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## 1 INTRODUCTION

This paper quantifies the proportion of noise impact assessments (NIAs) submitted to the Environment Agency (EA) in support of environmental permit applications that required further information to be requested between 2019 and 2024. The paper identifies reasons for poor NIA quality and subsequent information requests, and documents several initiatives which have been put in place by the EA to improve this situation. Analysis of over 300 NIAs submitted to the EA's National Permitting Service between 2019 and 2024 shows a reduction in requests for information in relation to common areas of concern, but there are still key areas where NIAs could be improved. This paper identifies the areas in which further improvements are required, and provides practical recommendations to the acoustics industry, to improve NIA quality and prevent further information being requested. This paper also addresses some frequently asked questions from the acoustics community.

## 2 AQMAU AND THE ENVIRONMENT AGENCY

The EA's Acoustics and Air Quality Modelling and Assessment Unit (AQMAU) audits NIAs submitted in support of environmental permit applications, on behalf of the National Permitting Service. AQMAU is a specialist technical team of 20 team members, including a sub-team of 5 Acoustics specialists. All 5 Acoustic specialists are corporate members of the Institute of Acoustics (MIOA), are educated to undergraduate or postgraduate level in acoustics or a related discipline, and have worked in private sector acoustic consultancies before joining the EA.

Under the Environmental Permitting (England and Wales) Regulations 2016 (EPR)<sup>1</sup>, the EA has legal powers to prevent serious pollution incidents. EPR places the responsibility on operators to ensure their regulated activities do not cause pollution to the environment or cause harm to human health. The AQMAU Acoustics team has a responsibility to prevent noise pollution from occurring by identifying noise pollution risks at the environmental permit application stage, through our auditing process. AQMAU's remit is currently primarily focussed on the application stage - compliance issues are addressed by other Acoustics specialists within the Environment & Business National Noise team.

NIAs prepared in support of an environmental permit application which include noise modelling or detailed calculations will be audited by AQMAU. NIAs submitted for lower risk applications may be assessed by Permitting Officers who operate as Noise Leads in the National Permitting Service, for example assessments which do not include modelling, or applications for minor variations to existing sites. Permitting Noise Leads are trained and supported on acoustics issues by AQMAU and the Environment & Business National Noise team.

## 3 NIA QUALITY

For many years, a large number of NIAs have been submitted in support of environmental permit applications with inadequate supporting information or which include technical errors. This has resulted in high numbers of information requests being issued to applicants, through Schedule 5 notices which are formal legal information requests issued to applicants, in accordance with the EA's powers under Schedule 5 of EPR. The creation of a Schedule 5 notice is time-consuming and costly to the EA, can delay the determination of an environmental permit application, resulting in lost time and money for applicants and consultants and contribute to an inefficient permitting system.

### 3.1 2019-2023 DATA

Figure 1 below shows the percentage of applications where AQMAU audited a NIA which required additional information to be requested for the years 2019 to 2023. This is based on 268 NIA reports.

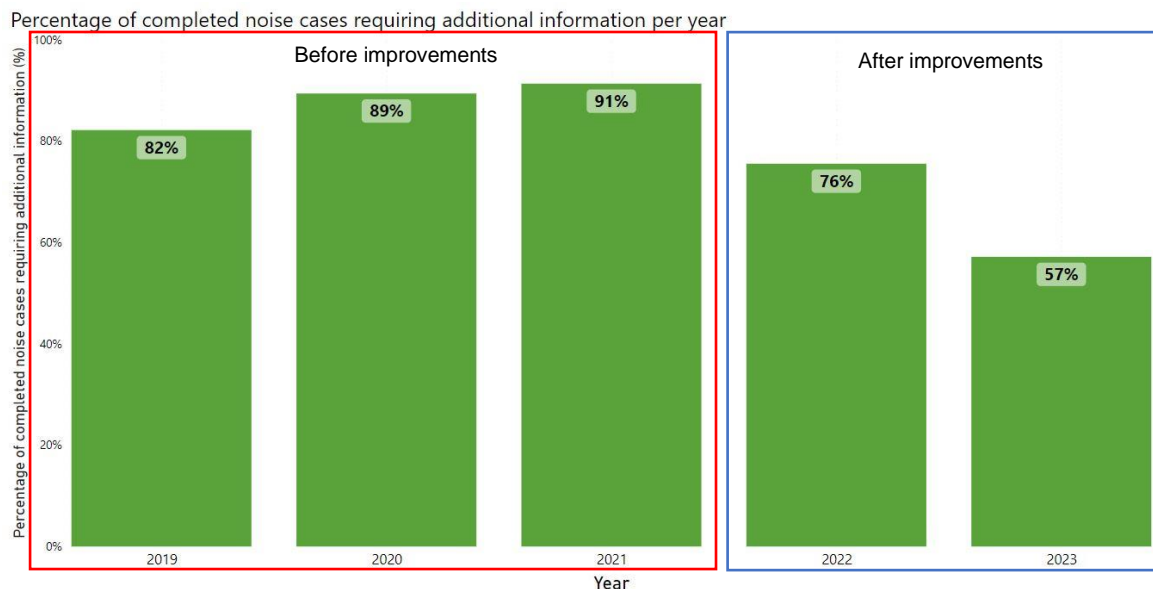


Figure 1: percentage of NIAs audited by AQMAU which required additional information to be requested for the years 2019 to 2023

Figure 1 shows that, between 2019 and 2021, most NIAs (82%-91%) required additional information to be requested by AQMAU. Although several initiatives were delivered by the EA in 2021, due to the number of applications received by the National Permitting Service and subsequent queue lengths, the impact of these initiatives only began to be observable from 2022 onwards. Data shown between 2019 and 2021 is therefore indicative of NIA quality before any EA initiatives (external guidance and AQMAU communication with acoustics industry, as will be discussed in Section 3.4) were delivered. The percentage of information requests began to reduce in 2022 (76%) and 2023 (57%), as a result of EA initiatives providing clarity on our requirements and an increased understanding of this in the acoustics industry.

### 3.2 KEY NIA ISSUES FROM 2019-2023

Figure 2 below shows the key types of information which were requested by AQMAU for the period 2019 to 2023. This dataset is the same as used to derive Figure 1, so is based on 268 NIA reports.

#### Percentage of requests for information by information type (2019-2023)

This graph only shows requests for 'new cases' and does not include 'follow up' requests

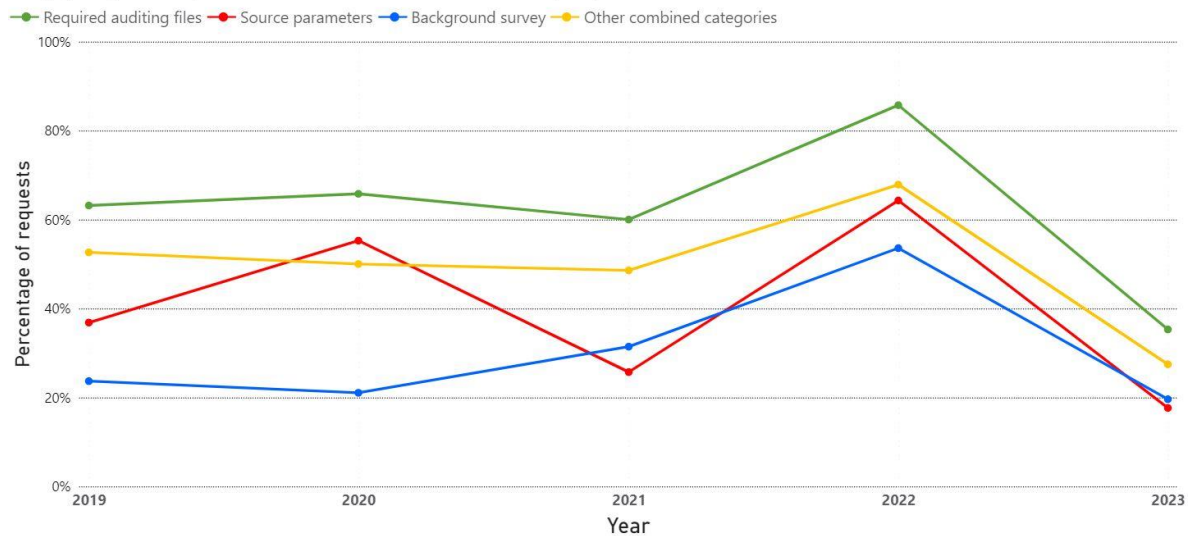


Figure 2: Information requests by type for the years 2019 to 2023

Figure 2 shows the most requested information types between 2019 and 2023 related to:

- **Auditing files:** e.g. background survey data, noise modelling files / calculation spreadsheets not submitted with the application.
- **Source parameters:** e.g. not evidenced by manufacturer's data, sound pressure level measurements made of large sound sources at 1m reference distance which can underestimate sound power level.
- **Background survey:** e.g. survey not representative of operational hours e.g. site proposed to operate on a weekend data, but survey undertaken on a weekday.
- **'Other combined categories'** covers several individual technical errors, such as:
  - The NIA was not prepared in accordance with BS 4142: 2014 +A1: 2019 (BS 4142)<sup>2</sup>.
  - The application is a proposed variation to an existing environmental permit (e.g. increased throughput, extended operational hours etc.) but the NIA has not assessed the variation or quantified the existing operations sufficiently.
  - Future residential receptors which are in the planning system are missing from the NIA.
  - The NIA has not considered upper floor receptors, representative of locations in which occupants may be working or resting during daytime hours.

In 2023, there was a notable reduction in the most requested information (auditing files, source parameters, background survey) compared to 2019-2022, which indicates a step in the right direction.

### 3.3 WHY HAS NIA QUALITY BEEN SO POOR?

The analysis shown in Figure 1 and Figure 2 paints a poor picture of the quality of NIAs submitted to the Environment Agency in support of environmental permit applications, particularly before 2022. The responsibility for the quality of an application, and any subsequent delays in the permit determination due to inadequacies, primarily rests with the applicant and their acoustic consultants. Nevertheless, it is also crucial for the EA to provide comprehensive guidance and advice to applicants and acoustic consultants. This support is essential for the preparation of robust NIAs that are submitted to support environmental permit applications. It is important that the EA maintains a high standard of internal practices to set a positive example for applicants and consultants, fostering a collaborative environment that prioritises quality and efficiency in the permitting process. AQMAU considers there to be several reasons for the particularly poor NIAs submitted between 2019 and 2021 (before improvements), and the high percentage of information requests which resulted:

- **External guidance:** prior to 2021, the EA's primary noise guidance was Horizontal Guidance (H3)<sup>3</sup>. This was published in 2002 and was not updated to reflect the complexity of proposed applications or EA requirements as they developed over time.
- **Lack of AQMAU visibility to acoustics industry:** although AQMAU did engage to a minor degree with the acoustics industry, a direct link between the individuals reviewing NIAs for permit applications and the acoustics industry was not established. Crucially, the acoustics industry was not aware of AQMAU's rigorous auditing process of NIAs.
- **Environmental permitting awareness:** many acoustic consultants work in the planning sector, engaging with Local Planning Authorities (LPAs), who typically have different requirements to the EA. AQMAU's auditing process of NIAs is typically more rigorous than LPA's, due to the EA's responsibilities under EPR and our duty to protect the public from noise pollution, which was not commonly known to the acoustics industry.

### 3.4 EA INITIATIVES

Since 2021, the EA has delivered several initiatives to improve the guidance and advice we provide to applicants and acoustic consultants. This has been supported by improving our own technical resilience, engaging constructively and transparently with both applicants and acoustic consultants to ensure our processes and requirements are clear. These are described in more detail below.

#### 3.4.1 External guidance

The EA's Environment & Business National Noise team delivered the following guidance to industry:

- July 2021. Noise and vibration management: environmental permits<sup>4</sup>. This guidance replaced the previous H3 guidance, providing clarity on how UK environment agencies assess noise, legal requirements for managing noise, NIAs and noise management plans (NMPs).
- March 2023. Method implementation document (MID) for BS 4142<sup>5</sup>. This guidance document explains how to use 'BS 4142 Method for rating and assessing industrial and commercial sound' when monitoring sound for an environmental permit.

The EA's Environment & Business National Noise team regularly engages with the acoustics industry, through presentations at conferences and as key speakers at Institute of Acoustics (IoA) events.

#### 3.4.2 AQMAU engagement with acoustics industry

AQMAU collaborates with the Association of Noise Consultants (ANC) and IoA, enhancing visibility and transparency about EA requirements, auditing, and permitting. Initiatives include publishing articles in the Acoustics Bulletin (2021-2024) and IoA conference papers (2023-2024), offering insights into how AQMAU audits NIAs. By categorising the information requests made since 2019, AQMAU has been able to understand the key areas in which to target communications and improvement initiatives with the acoustics industry and applicants, and provides clear advice to acoustic consultants about our rigorous auditing process and information requirements. Recent initiatives include:

- March 2022. Delivered a presentation to ANC members explaining AQMAU's auditing process and 'what we do with NIAs when they are submitted to the EA'.
- Acoustics Bulletin articles in 2021<sup>6</sup> and 2023<sup>7, 8</sup>.
- Acoustics 2023<sup>9</sup> and 2024<sup>10</sup> conference papers.
- AQMAU has also taken part in industry discussion panels hosted by the IoA and ANC on BS 4142 and has delivered presentations to IoA regional branches (Midlands branch March 2024, Eastern Branch April 2024).

### 3.4.3 AQMAU engagement with applicants

AQMAU has also focussed on improving EA systems and processes, to assist applicants and acoustic consultants, and ensure a more efficient permitting service, by delivering the following.

- December 2021. Documents provided to applicants at pre-application stage.
  - **Supplementary pre-application advice on preparing a NIA.** This document expands on the report structure proposed in the Noise and vibration management: environmental permits guidance<sup>4</sup>, and provides useful recommendations which relate to the commonly requested information identified in AQMAU's analysis of completed audits.
  - **Noise Management Plan template.** This document highlights the key areas where the EA requires detail to be provided by applicants and operators in relation to how they will control noise pollution in an ongoing manner. The NMP should be informed by the content of the NIA, and is consistent with other EA management plans (e.g. dust, odour).
- AQMAU has established links with the Chartered Institute of Waste Management, Minerals Planning Association and Environmental Services Association, providing information related to NIAs for the waste and landfill sectors, where queries often arise.
- The **Noise Advisory Tool (NAT)**, launching late 2024 by AQMAU, will guide applicants on the need for a NIA and NMP for environmental permit applications. It will clarify when detailed noise impact assessments are necessary, streamlining the process and preventing delays from unnecessary or missing assessments.

### 3.5 WHERE ARE WE NOW? 2024 SO FAR

As Figure 1 shows, the 2022 and 2023 data indicates a steady reduction in information requests compared to previous years. Analysis of 2023 data (Figure 2) reveals significant improvements with the type of information being requested. AQMAU's analysis of 2024 data so far (covering 49 completed audits of NIAs) shows that the frequency of requests for commonly requested information in previous years (2019-2023: auditing files, source parameters, and background surveys), has remained consistently low, mirroring the lowest figures observed in 2023 data. With requests for the most commonly omitted information (auditing files, source parameters, background survey) now reduced compared to previous years, AQMAU can consider what other information is still being requested from applicants and acoustic consultants.

Figure 3 below shows the key types of information with the 'other combined category' which were requested by AQMAU from January to August 2024.

### Proportion of requests for information in the 'other combined' category (2024 to date)

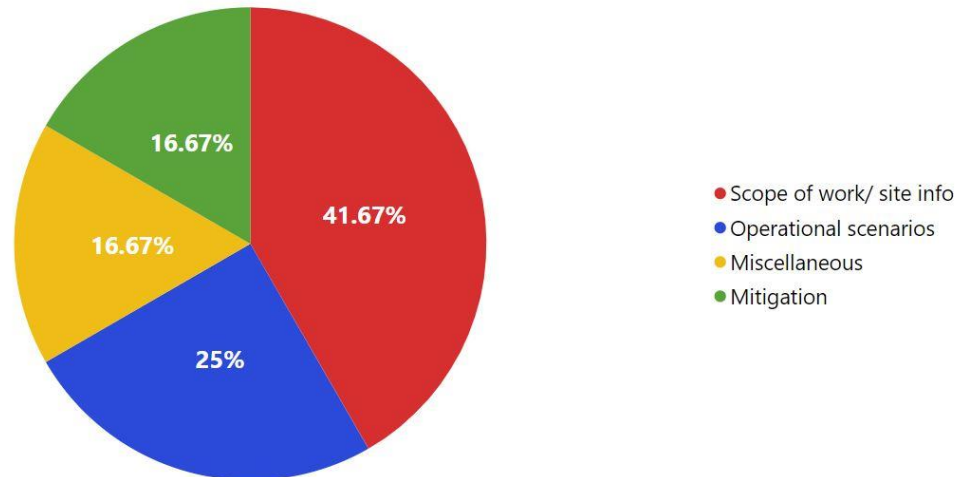


Figure 3: Information requests by type, within the 'other combined category', for the year 2024 so far (January to August)

AQMAU is also requesting information for the following additional reasons:

- **Scope of work/site info:** the application is a proposed variation to an existing environmental permit (e.g. increased throughput, extended operational hours etc.) but the NIA has not assessed the variation or quantified the existing operations sufficiently.
- **Operational scenarios:** e.g. operational hours are not clear.
- **Mitigation:** e.g. proposed mitigation is not sufficient to prevent a significant adverse impact.

'Miscellaneous items' include:

- Significant adverse impacts, no mitigation proposed.
- No consideration of context.
- No consideration of uncertainty.
- Future residential receptors which are in the planning system are missing from the NIA.
- The NIA has not considered upper floor receptors.
- Building dimensions are inaccurate.
- Sound breakout through building façades has been modelled using barriers and 3D reflectors, not area sources.

While the data shows a vast improvement on previous years, it is crucial that information requests continue to reduce. Applicants and acoustic consultants must recognise the importance of submitting all the necessary information at the initial application stage to reduce unnecessary delays to their application being processed, allowing AQMAU to work more efficiently and speed up the process for all. Fewer information requests arising from better quality NIAs will result in less lost time and money for applicants and consultants and contribute to an inefficient permitting system.

### 3.6 RECOMMENDATIONS TO ACOUSTICS INDUSTRY

Based on our findings, AQMAU has made the following recommendations to the acoustics industry to improve NIA quality and reduce information requests.

Recommendations related to scope of assessment

- If appointed to provide a NIA for an industrial site for a planning application, consult with your client to ask whether they are also applying for an environmental permit. Industrial facilities regulated by the EA typically require planning permission (to demonstrate suitable land use) and an environmental permit (to control emissions).
- Ensure your client understands that EA requirements are not likely to be the same as those from a Local Planning Authority (LPA) and a planning noise report is unlikely to meet EA requirements for an environmental permit application.
- The EA requires a BS 4142 assessment as our regulation process is consistent with the aims of the Noise Policy Statement for England (NPSE)<sup>11</sup>. We do not accept assessments in line with other assessment methodologies except in rare circumstances such as low frequency noise, which would need to be discussed and agreed at enhanced pre-application stage.
- Provide evidence to support any assumptions made in your NIA. Where evidence is missing, the EA may need to make conservative assumptions which can result in further information requests or delays to a permit determination.
- Focus on minimising uncertainty associated with all aspects of a NIA.
- New residential receptors should be included in all NIAs if they are in the planning system.

Recommendations related to data

- Auditing files (raw background survey data, noise modelling files, calculation spreadsheets) must always be submitted with the NIA, to enable AQMAU to undertake detailed analysis.
- AQMAU will re-analyse the background ( $L_{A90}$ , dB) sound levels from the baseline sound survey to confirm whether we agree with the values presented. We will test sensitivity to alternative values statistically derived from the consultant's data where we consider the background sound data to be unrepresentative, which can increase the risk of noise pollution.
- Background surveys must be representative of site operational hours e.g. if a site is proposed to operate on a weekend, but the survey is undertaken on a weekday only, this is unlikely to be representative of weekend operational hours. Noise pollution risk is generally higher during more sensitive evening, night and weekend periods.
- AQMAU will analyse the noise modelling files or calculation spreadsheets, to replicate the specific sound levels shown in the NIA. We will test sensitivity to alternative calculation settings (orders of reflection, ground absorption, receiver heights, terrain data) where appropriate, which may increase the specific sound levels and risk of noise pollution.
- Source parameters must be supported by evidence. For example, sound pressure level measurements made close to large sound sources (e.g. at 1m distance) may underestimate the sound power levels of these sources. We will test sensitivity to alternative data where we consider the source data to underestimate the possible sound emissions, which may increase the risk of noise pollution.

Recommendations related to context and NIA conclusions

- Contextual arguments should consider negative points as well as positive.
- Although context is a critical element of a BS 4142 assessment, it cannot solely be used to make unacceptable noise pollution acceptable to the EA, especially if no attempt is being made to minimise operational sound emissions.
- The use of context to reduce BS 4142 impacts is often misinterpreted. EA guidance<sup>4</sup> states: *"It is unlikely you could adjust the assessment outcome beyond the next band (for example, modifying a BS 4142 outcome of more than 10dB to be less than an 'adverse impact')."*
- If an NIA shows a significant adverse impact without noise mitigation proposed, we will likely request additional mitigation, regardless of whether a contextual argument can be made to reduce this impact. In accordance with the aims of the NPSE<sup>11</sup>, the EA does not allow significant adverse impacts and only allows adverse impacts when an operator is minimising operational sound emissions, in line with appropriate measures<sup>12</sup>/Best Available Techniques<sup>13</sup>. If no attempt is being made to minimise sound emissions, the NIA is not compliant with the NPSE<sup>11</sup>, and an environmental permit is unlikely to be granted.

### 3.7 FREQUENTLY ASKED QUESTIONS FROM ACOUSTICS INDUSTRY

Q1. Can I speak to someone about my noise impact assessment?

A1. AQMAU typically provides written advice to applicants. However, if you would like to speak to someone before submitting a NIA, your client can seek enhanced pre-application advice (paid service), and a meeting can be scheduled with AQMAU. The EA's pre-application service can be accessed at the pre-application guidance page<sup>14</sup>. Your client will also be provided with AQMAU's pre-application documents if they apply for basic pre-application advice (free service). If your NIA has already been submitted and AQMAU has asked for additional information, which you would like to discuss, this can be arranged between the relevant Permitting Officer and the applicant.

Q2. Can I use old background survey data?

A2. There are no set rules for this. As with all aspects of a NIA, AQMAU advise consultants to provide justification and evidence for the suitability of background survey data used in the NIA, with the focus on minimising uncertainty as much as possible.

Q3. Can I use BS 5228 / BS 8233 / IEMA guidelines / other assessment method?

A3. The EA requires a BS 4142 assessment for all environmental permit applications where there is a risk of noise pollution. Our regulation process is consistent with the aims of the NPSE<sup>11</sup>, and BS 4142<sup>2</sup> is suitable for the majority of our regulated activities, with rare exceptions such as alternative assessment methods which can be used for low frequency noise. While other assessment methods or Standards can be used to support context, they cannot be used as the basis of assessment.

Q4. Why do I need to include upper floor receptors?

A4. The EA requires an assessment of noise impacts at all habitable floors of residential receptors. BS 4142<sup>2</sup> Section 1.1 states: "*The methods described in this British Standard use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.*" EA MID guidance<sup>5</sup> states: "*1.2 The term 'outside a building' does not just apply to external gardens or land, it applies to balconies and outside any room where occupants would expect or need quiet – studies, bedrooms, sitting rooms. If there is no clear evidence that a room is unoccupied, you must presume that it is, for example an attic window.*"

### 3.8 CONCLUSIONS

Through analysis of over 300 NIAs submitted to the EA in support of environmental permit applications between 2019-2024, AQMAU has identified that a significant proportion of NIAs required further information to be requested, delaying permit determination and resulting in lost time and money for the EA, applicants and consultants. This was particularly evident in the years 2019-2021. Since 2021, the EA has focussed on delivering initiatives to applicants and the acoustics industry to improve this situation, providing updated guidance and communicating constructively with industry regarding AQMAU's rigorous auditing process for NIAs. By identifying the most frequently requested information, AQMAU has tailored industry communications to focus on reducing these requests, and improvements have been seen in subsequent years. In terms of 'where we are in 2024', requests for information have continued to reduce, but key areas remain where NIA quality could be improved. AQMAU has been transparent in providing details of these key areas, including practical recommendations to acoustic consultants for improving NIA quality and preventing further information being requested, in addition to answers to frequently asked questions. AQMAU is committed to sharing our auditing processes with industry and providing insights into why we ask for certain information. Receiving good quality NIAs allows AQMAU to do our job of protecting people and the environment from noise pollution, and facilitates a more efficient permitting service and happier clients for consultants.



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