

Fact Sheet – Buy Quiet Procedure

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Responsible Executive: Director, Health, Safety & Environment

Responsible Offices: Health, Safety & Environment

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1. Introduction/Overview/Purpose

The purpose of this procedure is to establish and implement the Buy Quiet initiative at KAUST to control noise levels, reduce worker noise exposure, and manage risks associated with excessive workplace noise.

2. Scope

This procedure applies to all departments, labs, and work areas within KAUST where equipment, tools, or machinery that generate noise are purchased or used.

3. Procedure

3.1 What is Buy Quiet?

Buy Quiet is a noise prevention initiative which:

- Provides guidance for controlling noise levels at the earliest stages of planning and design, and aims to encourage the minimization of noise generation by purchasing intrinsically quieter equipment.
- Encourages KAUST to purchase of quieter machinery and tools to reduce worker noise exposure. This is accomplished through purchase of new equipment or when older equipment is replaced.
- Encourages manufacturers to design quieter equipment by creating a demand for quieter products.

3.2 Why should you Buy Quiet?

- Loud/excessive noise is bad for health. It causes hearing loss and deafness, stress, poor productivity, and interferes with communication. Inability to hear can cause workplace accidents.
- KAUST is responsible for managing risks from noise for their staff and contractors - the quieter the machinery you buy, the risk of hearing loss in the workplace is minimized.

Buying Quiet:

- Reduces the costs of managing noise risks.
- Increases productivity and reduces the number of sick days.
- Reduces the need to buy and manage health surveillance, noise control, hearing protection.
- Reduces compensation costs and insurance premiums.

3.3 KAUST Noise Level Goal

- KAUST aims to provide a workplace noise level not greater than 85 dB (A) over an eight (8) hour day or an 82 dB (A) equivalent over 12 hours. Therefore, all equipment, plant and tools purchased should not generate noise greater than 85 dB (A).
- For equipment, plant and tools that may emit high impulse noise, the noise level will not exceed 140 dB (L). A measurement of 85 dB (A) at 1 meter but located in an area/location where no worker is expected to work on a daily basis, would normally be accepted but should be actioned on a case by case basis.

3.4 Team Responsibilities

3.4.1 Buyer/Purchaser

The Buyer or Purchaser is the responsible person buying a new equipment, tool or plant in the workplace/lab. The Buyer/Purchaser is responsible to apply the Buy Quiet criteria and to ensure that plant or equipment noise levels are discussed and taken into consideration when purchasing a new plant and equipment.

3.4.2 HSE – Appointed Noise Officer

The Appointed Noise Officer (e.g. Industrial Hygienist) is responsible for providing assistance and advice to estimate noise levels from equipment and placement of equipment in the workplace. This advice can extend to recommendations for noise treatment devices and other controls as necessary.

3.4.3 HSE – Environmental Department

Provides advice on environmental noise based on noise modelling and verification by monitoring, to ensure equipment used by existing and planned operations that may affect the community and the natural environment.

3.5 Determining the need for new equipment, plant or process

Prior to purchasing new equipment/plant, it is important to determine whether there is a quieter way to do the job.

Once it has been established that there is a need for new equipment/plant the following process should be followed:

- Noise data requested from the vendor, supplier or manufacturer;
- Compare noise levels at the location where the equipment will be operated;
- Determine what this noise level will mean with plant or equipment in situ in the workplace with the assistance of the Appointed Noise Officer;
- Accept or reject equipment based on noise levels and risk assessment to be signed off by the relevant Manager;
- Proceed to purchase and participate in the delivery of equipment: and
- Post installation testing of noise levels.

3.6 Questions for Vendors and Suppliers

It is recommended to ask the vendors/ suppliers the following questions;

- Are there quieter models of the same machine?
- Does the quieter equipment have any additional safety features?
- If so, what are they?
- Is there any specific maintenance and service requirements?
- Are there any optional extras that can be purchased to further reduce noise?
- What costs are involved?

Even though quieter equipment tends to be more expensive to purchase, the equipment is usually better built and has noise reducing features included.

Features to consider in the selection process are:

- Higher manufacturing tolerances;
- Insulation or damping material included;
- Gears that mesh together better;
- Fans that are quieter;
- Better mountings;
- More secure parts to reduce vibration;
- Less reverberation within the unit itself;
- Tolerance for greater loads;
- Less impact noises produced in operation;
- The use of quieter processes (e.g. hydraulic operations often dampen noise);
- Sound enclosures for noisy parts or operators;
- Parts or attachments constructed of noise absorbing material (e.g. rubber or polyethylene); and
- Remote controls that allow operators to remain a safe distance from the source of the noise.

3.7 Lack of Vendor/Supplier Information

- When a vendor/supplier is unable to provide information on the noise level of the equipment it may be possible to arrange for noise measurements to be made of the same model of machine already installed elsewhere or of a machine set up in the vendor's workshop.
- The supplier may be prepared to meet or at least share the cost of having the measurements made since the information would be useful in relation to future product promotion and sales.
- If no data is available after these avenues are investigated, then it is recommended to research further supplier options.

3.8 Document History

Rev	Date	Prepared By	Description
New	Nov. 2020	J. Tran	New document

4. Business Process (if applicable)

Nil

5. References (if applicable)

Specific policies, procedures, guidelines, standards or charters related to the procedure should be referenced here or in the body of the procedures. (The University Policy Office can ensure these are hyper-linked).

6. Help

Questions about this procedure? Contact hse@kaust.edu.sa