



## CONSULTATION RESPONSE FORM

### Consultation on Planning Standards for Permitted Development Installations of Air Source Heat Pumps

Thank you for taking the time to comment on this consultation. MCS values the input from all interested parties in the development of its Scheme as, without you, we would not be able to define and raise the quality of installations. We would be grateful if you could use this form for your response which helps with collation and consideration of responses.

Responses are welcome to all, or a selection of, the consultation questions included in this [consultation document on the MCS website](#). General feedback is also welcome. Please submit responses by 26 January 2024 to [consultations@mcscertified.com](mailto:consultations@mcscertified.com) or The MCS Service Company Ltd, Violet 3, First Floor, Sci-Tech Daresbury, Keckwick Lane, Daresbury, Cheshire, WA4 4AB. Please state below whether you are responding as an individual or representing the views of an organisation and if you want the information that you provide to be treated as confidential.

Respondent Name:	Individual or organisation:	Organisation name (if applicable):	Organisation type:
Mark Hope	Organisation	Chartered Institute of Environmental Health	Membership and awarding body for the environmental health sector

Date
26 January 2024

## General matters relating to the status of the document

The MCS was prepared by the industry sector steering group with the trade body, Defra, DCLG, and DECC also contributing.

The status of MCS 020 (without the respective government logos) is not clear. The document as issued bears the MCS logo and is attributed as follows: “This Microgeneration Installation Standard is the property of MCS Charitable Foundation, Suite F40, Innovation Centre, Sci-Tech Daresbury, Keckwick Lane, Cheshire WA4 4FS. Registered Charity No. 1165752”.

It is unclear if this is official guidance that is a mandatory consideration for Local Planning Authorities notwithstanding that the Planning Portal website references the document and states:

“While it is **ultimately the landowners responsibility** to ensure that all of the conditions and limits to be permitted development will be met, the installer of the equipment should check to ensure that the installation complies with the [Microgeneration Certification Scheme planning standards \(MCS 020\)](#), including requirements on noise.” [emphasis added]

The relationship between this document and nuisance also need to be confirmed.

It is recommended that the status of the MCS 020 document is clarified and confirmed. It is also recommended that the text should be amended as follows.

In paragraph 1.2 the sentence “The standard, and the notes and calculations carried out by the MCS Contractor, will also be used by local planning authorities and the MCS to verify compliance.” needs to be deleted. Local authorities will assess the planning criteria under MCS to determine if permitted development is suitable only. They are legally obliged under section 79 of the Environmental Protection Act 1990 to assess under nuisance provisions and the basis of that is *perception*, and probably a full impact assessment using BS 4142 where nuisance is alleged. The MCS needs to reflect that (see 1.3 below).

Paragraph 1.3 needs to be expanded to confirm that “Compliance with the MCS does not provide immunity to action under public or private nuisance.”

## Consultation Questions

### Current Clauses in MCS 020

1.1 Are there any circumstances (e.g. distance to nearest property) that could mean a noise assessment is not necessary to meet the conditions in Permitted Development Rights?

We would endorse a maximum distance at which the MCS 020 noise assessment procedure would need to be carried out, provided this does not represent in real terms a relaxation of the MCS noise limit. There are situations where the nearest neighbouring property can be several hundred metres from an air source heat pump (ASHP) installed under the MCS. In such circumstances the MCS 020 noise assessment procedure would be a formality, requiring unnecessary time, effort and paperwork of the MCS installer.

The three sound propagation variables included in the MCS 020 noise assessment procedure are: distance from the source to the assessment location, reflecting planes close to the source, and the presence of intervening barriers that provide useful acoustic screening.

The Energy Related Products (ERP) Regulations place sound power level limits on ASHPs depending upon their rated heat output. Based on pessimistic sound propagation conditions, a maximum distance could be determined for each of the heat output categories. Using the current MCS noise assessment procedure, pessimistic propagation conditions would be a single ASHP mounted on the ground, adjacent to two perpendicular walls facing the nearest neighbouring property, with no intervening solid barrier.

For the four heat output categories currently specified in the ERP regulations, the maximum distance at which an MCS 020 noise assessment would need to be carried out would be as follows:

Rated heat output:	≤ 6 kW	> 6 kW and ≤ 12 kW	> 12 kW and ≤ 30 kW	> 30 kW and ≤ 70 kW
Maximum permitted sound power level outdoors:	65 dB(A) ref 1 pW	70 dB(A) ref 1 pW	78 dB(A) ref 1 pW	88 dB(A) ref 1 pW
Maximum distance at which a calculation is required:	19 m	33 m	82 m	259

This suggests that for units up to 12kW a 30m distance (rounded to nearest convenient figure) would be appropriate as a distance for typical domestic sized ASHP units. Where higher rated heat output is required an increase of distance would be needed.

1.2 Contractors are required to obtain the A-weighted sound power level of the heat pump from manufacturer’s data to calculate heat pump noise. To avoid confusion over which value for sound power level should be used, we propose having a single database to obtain the sound power level, for example the MCS Product Directory, instead of the manufacturer’s data. Do you agree with this proposal, if so, where should the information be held?

We recommends that the sound power level data be stored in the MCS Product Directory so that the correct information may be easily found by MCS installers. However, this data should also be openly accessible to the public, both on the MCS website and by Application Programming Interface (API).

The database should also provide information on the presence of tones and/or other acoustic features.

1.3 The methodology requires contractors to establish whether there is a solid barrier between the heat pump and the assessment position. We intend to clarify what can and cannot be considered a solid barrier. In this respect, what types of barriers (e.g. different types of fence panels, walls, hedges) are likely to be encountered when installing heat pumps on domestic properties?

We support a clarification of the definition of a “solid barrier” in the MCS 020 Noise Assessment Procedure.

We recommend that the following definition be adopted:

“A solid barrier consists of an imperforate material, such as a pointed masonry wall or part of a building, through which there are no cracks or gaps. It should have a surface mass of at least 10 kg/m<sup>2</sup>, or comprise timber boards at least 18 mm thick without any gaps. A timber sheet material may be mounted on a lighter weight garden fence to upgrade it to meet the specification of a solid barrier. A garden fence without an additional board would not usually constitute a solid barrier. Hedges, trees and shrubs would never be considered part of a solid barrier.”

1.4 The current background noise assumption used in the methodology is 40dB. We are proposing to maintain this assumption for urban areas but decrease the background noise assumption to 35dB for rural areas. To determine whether an area is rural or urban, we propose using this postcode lookup tool. Do you agree with this method? Are there other considerations we should make in determining whether a domestic property is in an urban or rural area?

We strongly oppose the specification of noise limits relative to a notional background noise level. Such a simplified approach will inevitably lead to significant errors, with some rural areas having levels much greater than 35dB and some urban areas having levels much lower than 40dB. In addition, we do not think that it is necessary or appropriate to limit noise from heat pumps relative to a background sound level, not least because the scientific evidence does not support such an approach. This is especially true at night (see the WSP report on wind turbine noise and the latest version of BS 4142). It would be simpler to use absolute noise limits, which would also be more scientifically robust, for an assessment of this nature. We therefore strongly recommend removing the background noise level from the MCS 020 noise calculation procedure entirely and relying on an absolute limit for the ASHP noise level alone.

We also strongly oppose the specification of noise limits without any allowance for tonality or other acoustic features that will lead to increased annoyance and disturbance. It is recommended that the assessment procedure is developed to account for tones and other features. Ideally, the limit should be expressed as a rating level, consistent with the BS 4142.

The MCS 020 Noise Assessment Procedure combines a fixed notional background noise level (currently 40 dB(A)) with the calculated ASHP noise level at the assessment location. Using the current MCS noise assessment procedure and data tables this results in a limit on the ASHP of 37 dB(A). This is close to the upper rating level of 40dB and the lower rating target level of 35dB recommended by the CIEH/IOA if the sound does not contain pronounced tones and/or other acoustic features. We are seriously concerned that a proposed limit of 37dB will not provide sufficient protection to residents if the sound from the ASHP contains pronounced tones and/or other acoustic features.

## Additional Noise Clauses in MIS 3005-I

2.1 What steps could be considered appropriate to strengthen the requirements in the Heat Pump Installation Standard to ensure the acoustic impact of heat pumps on domestic properties is minimised? For example, should we consider orientation, location, avoiding reflective surfaces, the use of anti-vibration mats or other steps, and how?

It is essential that tones and other acoustic features are accounted for. We strongly recommend that the presence of tones and other acoustic features is accounted for in the noise assessment process and the imposition of limits (see above).

We would recommend that the MCS should publish guidance accompanying MCS 020 with information about how the orientation, location, avoiding reflective surfaces and possible use of antivibration mounts could be used to mitigate and minimise noise both at neighbouring properties but also in areas used by the owners of the ASHP.

The IOA and CIEH have already published separate briefing notes for members of the public and acoustics or environmental health professionals and a supporting calculation sheet:

- Professional advice note: [heat-pumps-briefing-note-professional-advice-note.pdf \(cieh.org\)](#)
- Briefing note for members of the public: [heat-pumps-briefing-note.pdf \(cieh.org\)](#)
- Calculation sheet (based on clarifying current MSC020): <https://www.ioa.org.uk/file/5836/download?token=G9G0t324>

We therefore support the publication of additional guidance for installers and members of the public, illustrating what owners of ASHPs and their neighbours might expect to hear from a correctly specified and installed ASHP.

We would be able and happy to provide expertise, along with partner organisations such as the IOA, and potentially replace the guidance mentioned above to provide an evidence-based reference for the guidance.

## Multiple Heat Pumps in the Curtilage of a Property

3.1 Are there any circumstances where it would not be appropriate to install multiple cascaded heat pumps on the same property? For example, due to the heat load or system design to the property, or the location of the property?

We support the installation of multiple cascaded heat pumps within the curtilage of the same property if the combined ASHP noise level at the assessment location does not exceed 'the limit' for a single unit.

3.2 The proposed methodology would likely be based on a spreadsheet in order to make calculations simpler for installers on-site, but is there additional benefits to making a paper-based methodology available too?

We support the implementation of the noise assessment procedure as a digital calculation tool, preferably as either a webform or a smartphone app. The calculations should be based on the analytical equations to allow more precise calculations to be carried out. Publishing the method in full would allow for a paper-based calculation to be carried out but would also allow third parties to create innovative tools that may increase the uptake of ASHPs in the UK.

## Multiple Heat Pumps in a Neighbourhood

4.1 What methods could be used to determine the number and relative positioning (both distance and angles) of heat pumps already installed or likely to be installed in a neighbourhood?

Cumulative impact from multiple installations is a serious concern. Permitted development rights should not be provided where there is a significant risk of cumulative noise impacts occurring (For example blocks of flats and other high density urban areas). There is also concern with the potential for multiple ASHPs to 'beat' with one another.

The MCS should clearly set out those circumstances where cumulative impact is a significant risk.

4.2 What precautions should be taken to avoid raising background noise above agreed levels when multiple heat pumps are being installed in a given area?

Permitted development rights should not be provided where there is a significant risk of cumulative noise impacts occurring or where there is a risk of raising background noise levels. MCS should set out the circumstances where this could occur and the mechanisms to be used to avoid cumulative impacts and consult further on the proposals.

We would be happy to engage further on this particular issue.