

Questionnaire for water misting system owners/operators

Start of Block: Welcome to the survey

Q1 Information letter

An assessment of risks associated with the use of water misting systems as a cooling intervention in public places in the Pilbara region of Western Australia

My name is Edmore Masaka. I am a PhD student enrolled with the Edith Cowan University, School of Medical and Health Sciences. I am conducting research on the health risks associated with the use of water misting systems to reduce air temperatures in places where people gather for recreation, sports, meetings, and other functions. The project is being supervised by Associate Professors Sue Reed and Jacques Oosthuizen of the university's School of Medical and Health Sciences. I am going to provide you with some information about the study and then invite you to take part in the project. You and other owners and operators of water misting systems in the Pilbara region of Western Australia are being invited to participate in this study. It is felt that your expertise and experience in operating and maintaining these systems in the Pilbara will significantly contribute to the understanding and knowledge of the risks associated with them.

What is this study about and why carry it out?

Exposure of people to bacteria which grow in plumbing systems able to spray small particles of water droplets has been linked to diseases of the lungs, ears and brain caused by breathing in these bacteria. Water misting systems being installed and used in public places and in domestic houses to reduce air temperatures are able to produce small water particles which can contain this type of bacteria. This study aims to find out whether water misting systems actually create an environment where these bacteria can grow and also whether they can produce and release the bacteria into the environment where they can be breathed in by people. The study also wants to know more about the knowledge, attitudes, and practices of those involved in the operation of the water misting systems regarding the health risks of using the systems

What does participation in the research project involve?

Your participation will involve completing a self-completion questionnaire to learn more about your knowledge of risks associated with these systems, operating procedures, and maintenance

Q2 Please indicate your willingness to participate in this study by selecting YES below. However if you do not wish to participate in the study, please select NO.

Yes (1)

No (2)

Skip To: End of Survey If Please indicate your willingness to participate in this study by selecting YES below. However if... = No

Q3 Which of the following best describes the type/s of water misting system/s that you work with?

Public (1)

Private (2)

Public and Private (3)

Q4 What is the purpose for which you use a water misting system? (Please select all that apply)

To assist in reducing ambient temperature (1)

To assist in humidifying ambient air (2)

To increase the comfort level of the public place (3)

Other (4)

Q8 Which of the following public health risks do you think the water mists may cause?

- Biological hazards (1)
 - Chemical hazards (4)
 - High humidity (2)
 - All of the above (3)
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Q9 Which of the following best describes the public health importance of water misting systems?

- Not important (1)
 - Important (2)
 - Very important (3)
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Q10 Which of the following operational condition/s do you think promote microbial growth in water misting systems ? (Please select all that apply)

Increased water temperature 25 Degrees Celcius – 50 Degrees Celcius (1)

Low levels of carbon in the water (2)

pH (6.8 – 7.9) (3)

Presence of slime (Biofilm) on the internal plumbing pipework and fixtures' surfaces (4)

Q12 Which of the following do you think are important maintenance aspects of water misting systems (Please select all that apply) ?

Adequate disinfection of the water (1)

Drainage of residual water after each use (2)

Regular flushing and cleaning of the plumbing pipework (once every month) (3)

The removal of dead legs in the plumbing network of the system (4)

Adhering to manufacturer's maintenance specifications (5)

Addition of incoming water filtration system (6)

Q13 Have you observed the build up of any crystalline solids or biosolids in the form of biofilms, sludge or mud in your water misting system?

Q15 Have you received any training on the operation of water misting systems?

- Yes (1)
- No (2)

Skip To: Q18 If Have you received any training on the operation of water misting systems? = No

Q16 Which of the following best describes the type of training you received ?

- Formal (1)
- Inhouse (2)

Skip To: Q18 If Which of the following best describes the type of training you received ? = Inhouse

Q17 Which of the following formal training course did you undergo ? (Please select all that apply)

- TAFE accredited certificate course (1)
 - TAFE accredited diploma course (2)
 - Royal life saving pool operations course (3)
 - Water corporation accredited course (4)
 - Other (5)
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