

ASTACEA2

Prepare for the energy assessment of air conditioning systems



Overview

This Unit covers those activities that are carried out in preparation for the onsite energy assessment of air conditioning systems. Note that the term 'assessment' is used throughout the standards when referring to the overall process of determining the energy performance of air conditioning systems, whereas 'inspection' is used only when referring to onsite inspection of air conditioning systems. The unit is about confirming arrangements for the inspection, agreeing a scope of works in consultation with property owner or manager (the client) and identifying when you are unable to conduct an inspection.

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Performance criteria

- You must be able to:*
- P1 clarify the purpose of the energy assessment and process involved
 - P2 identify the required pre-inspection information
 - P3 clarify the outcomes of the assessment and the nature of the report produced
 - P4 provide a method statement for owner/manager of the building
 - P5 clarify which observations will be conducted and gain client(s) approval
 - P6 estimate how long the inspection will take place
 - P7 identify the air conditioning system(s) and the requirements for appropriate sampling
 - P8 draw up a health and safety risk assessment in preparation for the inspection based on documentation received and prior documentary and internet research of the site and surrounding areas
 - P9 confirm the date, time, location of the onsite inspection and any specific arrangements that apply to the energy assessment
 - P10 prepare a clear and comprehensive scope of works in consultation with the client(s)
 - P11 agree communication channels for the onsite inspection and who can be contacted in the event of queries
 - P12 identify any circumstances that prevent you from undertaking a full energy assessment and explain the reasons to the client(s) politely and clearly

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Knowledge and understanding

You need to know and understand:

- K1 the types of records kept including air conditioning equipment installed, its maintenance and energy consumption
- K2 current guidance relating to content of building log books, operations and maintenance manuals, health and safety files and relevant statutory compliant records
- K3 appropriate pre-inspection information for cooling systems in readiness for inspection including:
 - K3.1. itemised list of installed package cooling systems including product makes, models, identification numbers together with cooling capacities, locations of equipment and ASHRAE refrigerant number
 - K3.2. description of method of control of temperature
 - K3.3. description of method of control for periods of operation
 - K3.4. records of calibration and maintenance operations
 - K3.5. energy consumption and metering records
- K4 the overall purpose of the energy assessment of air conditioning systems and the processes involved
- K5 the purpose and structure of the report that is provided
- K6 the importance of confirming the date, time and location of the onsite inspection
- K7 the importance of confirming whether any specific arrangements apply to the energy assessment including:
 - K7.1. how to gain access to the system and its components
 - K7.2. procedures for isolating equipment or supplies to allow safe access
 - K7.3. ways of estimating time for the inspection in relation to installed systems, their location and relationship to other systems
- K8 use of specific, non invasive and non hazardous techniques (e.g. use of a smoke pencil to observe air flow and temperature probe to test temperatures and the use of an anemometer)
- K9 methods of measuring evaporator and condenser efficiency
- K10 communication channels during inspection and contacts on site in the event of queries
- K11 health and safety procedures to be carried out including risk assessment of site and any special health and safety requirements relating specifically to air conditioning
- K12 site specific operating procedures including health and safety or security requirements particularly for out of hours working
- K13 the purpose and format of a scope of works, and the importance of agreeing a clear and comprehensive scope of works with the client(s)
- K14 how to identify and explain any circumstances that prevent you from undertaking an energy assessment including:

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- K14.1. systems beyond your current level of competence
- K14.2. difficulties in gaining access
- K14.3. conflicts of interest
- K14.4. health and safety issues

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