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US Green Building Council

LEED-AP-O-M

LEED AP Operations +
Maintenance

QUESTION: 1

An ASHRAE Level 1 walkthrough analysis contributes to what prerequisite or credit?

- A. Energy and Atmosphere Prerequisite, Building-Level Energy Metering
- B. Energy and Atmosphere Credit, Enhanced Refrigerant Management
- C. Energy and Atmosphere Prerequisite, Minimum Energy Performance
- D. Energy and Atmosphere Prerequisite, Energy Efficiency Best Management Practices

Answer(s): D

Explanation:

An ASHRAE Level 1 walkthrough analysis is a preliminary evaluation of a building's energy systems to identify obvious energy efficiency opportunities and potential areas for improvement. This type of analysis aligns with the Energy Efficiency Best Management Practices by establishing a baseline understanding of the building's energy use and identifying simple, low-cost measures to improve energy efficiency. It does not directly relate to building-level energy metering, refrigerant management, or the minimum energy performance standards, which are more technical and specific in nature.

QUESTION: 2

Under Indoor Environmental Quality Credit, Interior Lighting, outlet powered task lighting contributes towards compliance for what category of building space?

- A. Exterior
- B. Lavatory
- C. Mechanical
- D. Individual occupant

Answer(s): D

Explanation:

Outlet powered task lighting under the Indoor Environmental Quality Credit, Interior Lighting, contributes towards compliance for individual occupant spaces. This is because task lighting allows individual occupants to control their own lighting levels, which can improve comfort and productivity.

Reference:

LEED v4: Building Operations + Maintenance Guide¹, LEED certification for existing buildings and spaces².

QUESTION: 3

What credit rewards customers who change their normal consumption patterns in response to the varying price of energy over time?

- A. Energy and Atmosphere Credit, Demand Response
- B. Energy and Atmosphere Credit, Ongoing Commissioning
- C. Energy and Atmosphere Credit, Advanced Energy Metering
- D. Energy and Atmosphere Credit, Green Power and Carbon Offsets

Answer(s): A

Explanation:

The LEED AP Operations + Maintenance (LEED AP O+M) V4.1 rewards customers who change their normal consumption patterns in response to the varying price of energy over time under the Energy and Atmosphere Credit, Demand Response. This credit encourages building owners and operators to participate in demand response programs which aim to shift the timing of energy use to off-peak periods when demand on the grid is lower. This helps to reduce the strain on the grid during peak demand periods, potentially avoiding the need for additional power plants.

Reference:

LEED v4: Building Operations + Maintenance Guide, LEED AP with specialty, LEED certification for existing buildings and spaces, LEED AP O+M Exam, Building Operations & Maintenance - Canada Green Building Council (CAGBC)

QUESTION: 4

Cooling tower blowdown is necessary because

- A. too much water in the system is inefficient so its water levels must be lowered
- B. a buildup of dissolved solids increases conductivity which decreases efficiency
- C. excess water treatment chemical levels corrode pipes and bleed-off reduces chemical levels
- D. cold temperatures can freeze pipes if water is not moved and bleed-off prevents that from happening

Answer(s): B

Explanation:

LEED v4.1 O+M Reference Guide, p. 1132: LEED v4 - U.S. Green Building Council(<https://www.usgbc.org/guide/om>)3: What is Blowdown Loss in Cooling Towers?(<https://deltacooling.com/resources/faqs/what-is-blowdown-loss-in-cooling-towers>).

Cooling tower blowdown is a process used to manage water quality in cooling systems. It involves discharging a portion of the water from the system to control the concentration of dissolved solids and minerals, which accumulate due to the continuous evaporation of water. These dissolved solids can increase the water's conductivity, leading to scale formation, corrosion, and biofouling, all of which can significantly decrease the efficiency and lifespan of the cooling system. By performing blowdown, the system maintains the water quality within acceptable limits, ensuring optimal performance and energy efficiency of the cooling tower.

Reference:

The need for cooling tower blowdown due to the accumulation of dissolved solids is discussed within the context of water management practices in cooling systems in the LEED AP O+M documentation. This process is crucial for maintaining system efficiency and is covered under the Water Efficiency category, emphasizing the importance of water management in achieving sustainable building operations.

QUESTION: 5

For projects not eligible for the ENERGY STAR® rating, the project team could demonstrate compliance with Energy and Atmosphere Prerequisite, Minimum Energy Efficiency Performance