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Diocese of Cleveland Facilities Services Corporation

Creating An Energy Conservation-Operation Checklist

Whether you are a homeowner or the facility manager of a building, one should revisit energy conservation each year because energy conservation and efficiency improvement continue to evolve through advancements in technology that can reduce energy consumption.

To start one should decide on a plan to implement this new energy conservation initiative. The first 3-questions to be asked are:

1. Will I do this audit based on my knowledge, experience, available time, and cost to me to complete this Phase 1-Revisiting the Facility's Energy Conservation enterprise?

2. Are there Utility company energy audit programs available to lead or assist in this Energy Conservation enterprise?

3. Will I hire an energy audit company to complete a 3rd party energy conservation initiative based on their expertise and experience versus attempting to do this work myself?

Once the above decision is made, the audit process can begin "starting at the beginning" because it is important to first research what had been done in the past at this facility before proceeding with a new audit.

To begin with the revisiting of past audits the energy auditor (EA) can use the following checklist and then reuse this checklist again to complete this new energy audit. The EA will find that this initial review and collection of past audits will most likely have been completed on a number of different occasions versus finding a single past energy audit because these past audits may have focused on a certain energy or environmental task, such as a lighting survey by the Utility Company, a heating survey focused solely on the gas usage in the building, etc. The EA checklist should inventory as follows:

Exterior of Building

[ ] Has this facility received an infrared heat lost survey? If so, file this report into the new Energy Conservation Audit project folder. If not, consider hiring a company that provides exterior building infrared assessments.

[ ] Has this facility had its exterior walls and roof insulated in the past? If not consider adding insulation to the new audit recommendations now especially after reviewing the infrared assessment.

[ ] Has exterior siding replacement occurred and include the installation of a weather barrier to reduce air infiltration and drafts into the building? If not, consider this option based on the existing conditions of the exterior walls.

[ ] Have windows been replaced with more energy efficient windows? If not, consider this option.

[ ] Has weather stripping been added to windows and exterior doors?

Interior of Building

[ ] Are there insulated window shades to reduce heat loss through these windows, as well as block out the solar heat gain in the air-conditioning season?

[ ] Are there programmable heating and/or air-conditioning thermostats?

[ ] Are there utility sub-meters to better track energy use.

Heating Systems and Air-Conditioning Systems

[ ] Are air filters replaced quarterly?

[ ] Has central air-system ductwork been sealed and insulated? If not, consider this option for disconnects or leaks.

[ ] Are heating and/or air-conditioning ductwork and piping insulated in unheated areas?

[ ] Have the existing antiquated, inefficient equipment (boilers and air-handling units) been replaced?

[ ] Are heating, air-conditioning and domestic hot water heater systems services annually?

Domestic Hot Water Heating System

[ ] Are the domestic hot water heater and/or associated piping insulated?

[ ] Are there low-flow toilets, urinals, faucets, and show heads?

[ ] Have existing antiquated, inefficient domestic hot water heater(s) been replaced?

Electrical Lighting System

[ ] Are the back of electrical outlets and switches on exterior walls insulated?

[ ] Have incandescent lights been replaced with compact fluorescent light (CFL) or light-emitting diodes (LEDs) for desk lamps and overhead lighting?

[ ] Are there dimmers, motion sensors, and/or occupancy sensors to automatically turn off lighting when not in use?

[ ] Are there cathode ray tube (CRT) monitors with LED or liquid crystal display (LCD) monitors?

Because of the diversity of the survey checklist noted above it is recommended an audit team be formed based on the expertise of each of the team members. For the homeowner or facility manager doing this survey it is recommended he or she recruit others to assist and/or advise where other expertise needed. The alternative to this is to hire a third party energy audit company who will come with their own team of specialists.

With the above checklist in-hand the walk-around survey documentation can begin. It is also recommended that team members take photographs of their findings as a "picture is worth a thousand words" when it comes to describing the existing conditions.

References:

www.energy.gov

http://www.energysaveohio-homeaudit.com/home-audit

https://www.columbiagasohio.com/energy-efficiency/for-your-home/home-energy-audit

ASHRAE Procedures for Commercial Building Energy Audits-2nd Edition

ASHRAE Standard 211-2018 for Commercial Building Energy Audits

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