Mission Statement

The purpose of the Missouri Industrial Assessment Center is to promote best practices in energy efficiency, reusable energy, waste reduction, and productivity through integration of activities involving the university and all other interested parties. In accordance with the US Department of Energy’s requirements, the ultimate goal of the Missouri Industrial Assessment Center is to be “the center of resources and services in industrial energy efficiency” for industries in the state and the surrounding areas.

The center carries out activities in four areas: research, education, outreach, and industrial energy audits.

Missouri IAC is one of the 26 centers founded by the U.S. DOE in the nation

Partnership

Missouri IAC is located in MU College of Engineering, and works in partnership with Missouri Department of Natural Resources, MU Extension, and Missouri Enterprise, and other partners in the state.

Energy Audit Procedures

1. Utility Data Analysis: This step is to evaluate the characteristics of the energy systems and the patterns of energy used in the facility. The analysis will reveal fuel type that accounts for the largest energy use. The utility bills are collected to determine the patterns. The rate structures are studied to evaluate if the penalized for peak demand existed.

2. Usage Analysis: This step is to identify major energy consumption occupant from the pre-audit form. The loading and hours of occupation filled by company are analyzed by using software tools or by calculation tools. The analysis will be used for validating energy bills and help auditors to evaluate potential saving criteria.

3. Benchmark: Using the standard benchmark or equipment specification to identify the baseline for the facility. This information will be used to compare the baseline with the current usage when auditors are on the job. The benchmark will also be used as a reference to estimate the energy savings incurred from selected energy conservation measures.

4. Walk-Through Audit: In this stage, auditors will learn more about the facility from the company. Auditors will carry out the audit by identifying the potential energy saving measures and observations. The current operation conditions of major energy use equipment will be determined. The occupancy, schedules, and loading will be estimated. The maintenance procedures will be recorded for analysts.

5. Evaluate Energy Savings: All the data from walk-through audit, utility analysis and usage analysis will be collected and compared with the benchmark to find a potential savings and recommendations with the best practices in energy efficiency, reusable energy, waste reduction and process improvement.

Audit Timeline

- **Week 1**: Analyze pre-audit form
  - Utility Analysis
  - Usage Analysis
  - Benchmark

- **Week 2**: Walk-Through Audit
  - On-site visit plant tour
  - Conduct observations and measurements
  - Brief summary report

- **Week 3**: Summarize all the data and evaluate energy savings

- **Week 4**: Deliver a final report with audit recommendation to the company

Energy Reduction Recommendations

Interest areas of energy audit for Missouri IAC are lighting, motors, pumps, compressed air, steam and boiler, furnaces, HVAC systems, waste management, and process improvement. Therefore, these are some recommendations from our IAC database:

- Clean and maintain refrigerant condensers and towers
- Establish a predictive maintenance program
- Repair leaks in lines and valves
- Eliminate leaks in inert gas and compressed air lines/valves
- Keep equipment and filters clean
- Repair or replace steam traps
- Use compressor air filters
- Repair and eliminate steam leaks
- Maintain machines to reduce leaks
- Cross-train personnel to avoid lost time
- Replace light bulbs with T8 fluorescent bulbs

IAC Staff Members

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Energy Audit Workshop

The University of Missouri’s Industrial Assessment Center (IAC), co-sponsored by Missouri Department of Natural Resources, has teamed with the Missouri Small Business & Technology Development Centers (SBTDDC) to host Energy Audit Workshop to support regional economic development. The workshop helps audiences to identify problem areas and finding potential energy cost savings for small to mid-size factory.