Building Assessment Report Guidelines

**Version: 1.0 (April 2021)**

Industrial Assessment Center (IAC) reports accomplish multiple purposes and provide a reflection on the authoring institution, the IAC program, and the United States Department of Energy (DOE).

**Contents of an IAC Building Assessment Report**

* 1. Foremost, the building assessment report should be a tool to assist the client facility personnel in implementing the energy recommendations made by the IAC team.
  2. Successful assessment reports provide an accurate, comprehensive record of the IAC building assessment visit and reflect an understanding of the building energy systems acquired by the IAC team.
  3. Unit Systems

3.1 Reporting of data should normally be presented in default units as they appear in the database (see sample units below). When the client uses metric units, they should be included in the report, but the default unit equivalents should be shown in parentheses.

* + - * Default Units:
        + Electricity Usage: kWh
        + Electricity Demand: kW
        + Natural Gas: MMBtu
        + Water: Tgal
  1. Uploads to the database should always be in default database units.
  2. To ensure consistency across reports and to maximize long-term value of report data, consult EERE’s Building Energy Data Exchange Specification (BEDES) – <https://bedes.lbl.gov/>.
  3. Reports should be attractive, concise and professionally assembled in an easy to read format:

4.1 All pages, tables and figures need to be numbered.

4.2 A footer with report number should be included on every page.

4.3 All data used in reports must be sourced from one of the following areas:

* + - * Measured during assessment
      * Vendor spec sheet
      * Industry/equipment standard value
      * Client provided
      * Calculation based on a clearly referenced and reliable source

5. Useful building assessment reports of acceptable quality are expected to include the following:

5.1 Cover Page

* + - * Report Number
      * Date of assessment
      * School logo, IAC logo and DOE logo
      * Contact information
      * Names of the members assessment team
        + Faculty or students who worked on a report but did not attend the site visit should not be included.
      * No other organization (vendor, utility, nonprofit) may display their logo on the cover page unless they have contributed financially to the assessment. They may be acknowledged within the report for their support.

5.2 Disclaimer

* + - * The disclaimer should indicate that we only warranty our best effort and not the data or recommendations included in the report.

5.3 Preface

* + - * The preface summarizes and explains the IAC program and building assessment. It should acknowledge the DOE, the involvement of students, and the limitations of a one-day assessment.

5.4 Table of Contents

5.5 Executive Summary

* + - * The executive summary should include an overall summary of the assessment and relevant descriptive data. In addition, a summary of the assessment recommendations should be included. It should list the title and value of dollars and resources saved for each assessment recommendation, as well as a brief description of the conservation potential found.

5.6 Building Description

* + - * Contains the building size, a general layout, the building(s) construction and assessed envelope condition including windows, doors, roof, as well as other functional components of the building (e.g., utility rooms, servers, offices, restrooms and kitchens, storage, warehouse space, common areas) and where they are located.
        + Include the client's zip code, number of employees, operating hours, and a summary of annual energy and water use.

5.7 Best Practices

* + - * The best practices section should briefly describe specific practices observed during the visit the IAC team encourages the client to continue.
        + Must be included on every report.

5.8 Energy Cost Analysis

* + - * Should include electrical usage, natural gas usage, fuel oil, and, if applicable, water or sewer data including costs related to energy and demand. Other types of energy, i.e. propane, should also be included if they are deemed significant. The energy data should be presented in an easy to read, graphical format (e.g., tables, bar and/or pie charts).
        + The Center should obtain one year of energy data from the company before starting assessment.

5.9 Major Energy Consuming Equipment

* + - * Should include HVAC, lighting, kitchen equipment, etc. This list should include the sizes of the major pieces of equipment and their energy requirements.

5.10 Energy Management/Additional Resources

* + - * Section should be included to explain the importance of utilizing formal planning protocols.
  1. Assessment Recommendations
     + - Each recommendation included in the report should be self-explanatory and should not require readers to look back at other recommendations or parts of the report.
       - Recommendations should consider the best action to take to correct an identified problem. Multiple recommendations involving the same identified problem should not be included.
       - All recommendations are to be treated independently of each other.
       - Include data, pictures and personal observations from the site visit.

6. Assessment recommendations must consider the following:

* 1. Use a table to summarize results.
     + Normally only include recommendations with a simple payback of five years or less, unless otherwise directed by the client.
     + Include anticipated savings based on detailed calculations of assessment recommendations.
     + Include implementation costs with detailed capital costs, "balance of project" costs and labor costs.
     + Include available rebates and incentives for recommended measures.
  2. Normally details of calculations are given.
     + In all cases an effort should be made to explain the rationale behind the recommendation.
     + Avoid using black box software solvers, rule of thumb, or ‘in my experience’ as reasoning.
     + Use of the outputs of DOE-approved tools is acceptable and encouraged.
     + Transparency in all calculations is desired.
  3. The general rule of pricing for implementation costs is as follows:
     + The names and contact information of at least 3 vendors must be included.
     + If a center is aware of only one vendor that produces a specific product, this company can be listed with a statement saying that they are the only known company that produces this product.
     + Industry standards using resources such as RSMeans is acceptable.
     + If a recommendation is referring to a common product (e.g., LED lighting), then the use of a single generic vendor is acceptable.

6.4 Using experts or consultants

* In cases of low payback, it is recommended to take advantage of consultants or experts that have knowledge in the specific area which can be included as a part of the implementation cost when appropriate for the recommendation.
  1. In the case of multiple meter systems, specify which meter(s) is associated with each recommendation.
* Please also clearly state which rate structure/unit cost is being used for each recommendation or if an overall meter average is being applied.

**Post Assessment Considerations**

* 1. The Technical Field Manager will critique all assessment reports.
     + The critiques will be a combination of comments and suggestions. In some instances, a request for changes will be made and a revised report will need to be uploaded.
     + Review and response to critiques is expected within 30 days.
  2. Implementation reports should be sent to the Technical Field Manager via the ActLog within 6-9 months of the building visit. Centers should inquire from clients about potential Case Studies at this point and obtain quotes and other pertinent Case Study information from plant personnel.
  3. If a client cannot be contacted within the 10 months to obtain implementation status information, an N21 (could not contact) code may be entered into the Technical Field Manager's database. The center must maintain and forward a record of at least 5 contact attempts to the client. If the data is later obtained, the values in the database will be changed. It is unusual to have more than one client in a year that cannot be contacted. The record of the calls and reason for using the N21 code should be emailed to the Technical Field Manager.