

EnMS Records: Check and Use the Evidence

Note: This document is intended for use by organizations that are using or have used the U.S. Department of Energy's (U.S. DOE) eGuide Level 2 for implementation of an ISO 50001-2011 energy management system (EnMS). It is primarily designed for eGuide users planning to pursue third-party certification to the ISO 50001-2011 standard. The information presented here is organized around the Plan-Do-Check-Act continual improvement framework of the ISO 50001 standard and the Steps of the U.S. DOE eGuide Level 2.

Records provide evidence of activities performed and results achieved. For ISO 50001, your organization must maintain records to demonstrate that its EnMS meets both the organization's EnMS requirements and the requirements of the ISO 50001 standard. Records that demonstrate the energy performance results of the organization are also required.

It is important to know that checking and using the evidence from your energy management system necessarily involves your EnMS records. The information in this document can help you understand how to check and use the evidence from your system to demonstrate:

- the implementation of the EnMS (you are doing what you say), and
- the effectiveness of the EnMS in generating the intended results (what you are doing is working).

First, check implementation of the planning ("PLAN") process using your records:

- ✓ In Step 1.4, a management representative was appointed. A record of the appointment demonstrates the implementation of responsibilities and top management commitment.
- ✓ In Step 1.7, the energy policy was defined. A record of approval of this policy demonstrates both management commitment and organizational commitment.
- ✓ In Step 2.1, applicable legal and other requirements related to the organization's energy use, consumption and efficiency are identified, evaluated and tracked. In this case it is likely that more than one record is involved. There may be one record for identification and tracking, and another record for the evaluation of how these requirements apply to energy in your organization. There may be additional records for tracking, as well as for the evaluation, depending on how the system was established.
- ✓ In Step 2.2, Step 2.3 and Step 2.4, energy sources as well as past and present energy data were identified and analyzed. These may be electronic records and would demonstrate that the system for energy data is implemented. It also demonstrates the ability of the system to manage data.
- ✓ In Step 2.5, significant energy uses were identified. Records of this demonstrate the implementation of criteria for significance and use of the energy data.

- ✓ In Step 2.6, energy opportunities were determined and prioritized. A record of these demonstrates implementation of an understanding of energy data, energy opportunities and organizational needs.
- ✓ In Step 2.7, EnPIs were established. Records of these indicate an understanding of facilities, systems, processes and equipment that affect energy use, consumption and performance of the EnMS.
- ✓ In Step 2.8, an energy baseline(s) was established. A record of the baseline(s) provides clear evidence of an understanding of energy data and the comparison points needed to effectively demonstrate energy performance improvement.
- ✓ In Step 2.9, Step 2.10 and Step 2.11, energy objectives, targets, and action plans were established. Records of these demonstrate the intent and implementation of continual improvement activities.

Taking all of these records together is a way to review and evaluate the effectiveness of the planning process. Examples of how you can view the records together:

- Overall, the records show that all the energy sources within the scope of the EnMS are accounted for within the energy planning process. In addition, they demonstrate that energy use and consumption are clearly understood, data on energy consumption is available, and that the evaluation of energy opportunities has been performed in a clear and systematic fashion with related improvement objectives established.
- Also, the data for energy review, the baseline(s), the list of opportunities, and the significant energy uses taken together show a great understanding of the processes and use of energy within the organization.
- In addition, the data for energy review and the objectives and targets taken together indicate an ability to manage data on an on-going basis and to use it to make data driven decisions.
- Finally, the review of energy review data, the baseline(s), and the EnPIs taken together indicates a clear understanding of how to manage processes using data.

Now, check establishment of the EnMS implementation and operation (“DO”) processes using your records:

- ✓ In Step 3.3, processes for managing and controlling information were defined and implemented. Related records could include revision history tables for specific documents, signatures or emails of document approval, updates to forms, document distribution lists and others. Such records help you ensure that the management of information is effective and provides opportunities for communication with the workforce.
- ✓ In Step 3.4.1 and Step 3.4.2, competence, training and awareness were determined. Together, these processes generate one of the most valuable resources an organization can have – competent staff. It also helps open communication with contractors and temporary staff.

Reviewing the records on competency and training or other actions taken allows a review of this process.

- ✓ In Step 1.8 and Step 3.4.3, ongoing internal communications about energy were initiated. A review of associated records is a means to review this process and how well it is working for your organization.
- ✓ External communication was discussed in Step 3.4.4. The records related to external communication focus on decisions about whether your organization will communicate externally about the policy, energy performance and energy management system. The external communication related to suppliers and service providers was discussed in Step 3.4.2. These communication records help to ensure the lines of communication to those who can help us manage our energy and be successful.
- ✓ In Step 3.5, operational and maintenance controls were determined and implemented. The records generated from this process could include maintenance databases, equipment logs, equipment down time logs, production records, occupancy levels, equipment settings, operation hours, personnel assignments. Review of these types of records confirms that operational and maintenance activities related to significant energy uses are being performed properly.
- ✓ In Step 3.6, recording the results of design activities was addressed. This allows the organization to demonstrate innovation and planned improvement of energy performance in activities involving new or modified facilities, equipment, systems and processes.
- ✓ In Step 3.7 and Step 3.8, the procurement processes were discussed. Records related to procurement may include such items as purchasing specifications, email or other communications with suppliers or service providers, calculations of expected operating lifetimes for equipment or products, and evaluations of options for other sources or technologies. These types of records help demonstrate management of the significant energy uses and communication with suppliers about energy requirements.

Taking all of these records together is a way to review and evaluate the effectiveness of the EnMS implementation and operation processes. Examples of how you can view the records together:

- The energy use and consumption data combined with the operational control and maintenance data and the training records indicate who is qualified within the organization to manage and control energy use and consumption.
- The energy management action plans in combination with the training, procurement and design records demonstrate planned energy performance improvements.
- The opportunities, design, procurement and communication information taken together demonstrates the intent to improve as well as innovation and energy considerations in long term planning.

Next, check implementation of the EnMS checking (“CHECK”) processes using your records:

- ✓ In Step 3.3, controls for EnMS records were defined and implemented. Managing records effectively demonstrates what your organization does, how it works, and why your organization is successful in managing energy and improving energy performance.
- ✓ In Step 4.1, measuring and monitoring and calibration processes were discussed. Many records are generated from these processes. These include calibration records, monitoring and measurement data for key characteristics including EnPIs, significant energy uses, variables that affect energy use, future energy use, opportunities, effectiveness of energy action plans, and actual vs expected energy consumption. These records enable monitoring and evaluation of your organization's energy performance.
- ✓ In Step 4.2, significant deviations were defined for energy performance and an investigation process was established. Records from these activities support evaluation of your organization's energy performance and an "early warning" approach to dealing with energy performance results outside of expected parameters.
- ✓ Step 4.3 addressed the evaluation of legal and other requirements. This set of records provides an excellent opportunity to demonstrate the organization's intent to meet both mandatory (i.e. legal) and voluntary (i.e. "other" agreed to) energy-related requirements. A review of this system for trends and issues not only reflects the importance of ongoing compliance to the organization, but also the clear intent to manage and maintain the needed information.
- ✓ In Step 4.4, the internal audit process was implemented. The records from this process may include, but are not limited to, training records for internal auditors, audit results, audit schedules and audit plans. Such records help to demonstrate internal review of the system and how well it is working, along with the ongoing commitment of top management to provide resources (especially personnel time) for the internal audit program.
- ✓ In Step 4.5, the "find-and-fix" system addressing nonconformities, corrective and preventive actions was established. The records from this process may include, but are not limited to, nonconformities, trended data and information, and corrective and preventive actions. This helps to demonstrate the organization's problem identification and problem-solving capabilities, and its intent to review and manage the improvement of the energy management processes.

Taking all of these records together is a way to review and evaluate the effectiveness of the checking processes. Examples of how you can view the records together:

- The energy use and consumption data combined with operational and maintenance controls and the monitoring, measurement and analysis information demonstrates control of the significant energy uses.
- The energy use and consumption data, energy management action plans, EnPIs, and baseline data, in combination with the monitoring and measurement data, data on the effectiveness of the action plans, and actual versus expected energy consumption demonstrate your organization's energy performance.
- The monitoring, measurement and analysis records, combined with records of significant deviation investigations and/or corrective and preventive actions

demonstrate energy performance is monitored and that major deviations in energy performance are addressed.

- The internal audit and evaluation of compliance records, combined with the corrective and preventive action records demonstrate the intent to comply with applicable legal and other requirements and to manage and improve the EnMS and energy performance.

Finally, check implementation of the management review (“ACT”) process to sustain and improve the enMS using your records:

- ✓ In Step 5.1 and Step 5.3.1, key information for management was collected and a process established for top management review of energy performance and the EnMS. This process involves reviewing a lot of information that is available from your EnMS records. Management review clearly enables the organization to evaluate and address what is working, what needs to be improved, where the resources are currently focused, and upcoming changes that may require adjustments in resource allocations. It helps to ensure that the direction of the EnMS is aligned with the priorities of the organization. The records of management review and the actions taken support and demonstrate top management’s responsibilities and commitment.

Taking all of these records together is a way to review and evaluate the effectiveness and continual improvement of both the management system and the energy performance of your organization.