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ISO 9000 & AUDITS
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ISO9001 and ISO50001 Comparison and Optimization of Synergies



ISO9001 AND ISO50001 - GENERAL SIMILARITIES AND DIFFERENCES

Purpose and Focus – Developed by ISO Focus on Different Aspects of Organizational Management

❖ ISO9001:2015

Focus on Quality Management System (QMS) who's purpose is the effective delivery of products and services which satisfy the needs and expectations of the organization's customers, the organization's and of other stakeholders.

First published in 1987, went through several revisions, the current version was issued in 2015

❖ ISO50001:2018

Focus is on Energy management system (EnMS), who's purpose is to manage and continually improve the organization's energy performance, energy efficiency, and energy consumption, thus reducing the energy cost and contributing to environmental protection by minimizing greenhouse gas emissions (CO2 reduction).

First published in 2011, and current version was published in 2018

❖ Application and Certification

Both standards apply to all types, size and complexity of organizations.

Accredited Certification Bodies assess the compliance of the organization with the requirements of the standard and provide certification



Structure and Requirements

- ❖ Both standards provide a structured approach, based on Plan-Do-Check-Act (PDCA). ISO9001 emphasizes processes to ensure consistent product and service quality and ISO50001 the management of energy performance, efficiency, use and consumption effectively
- ❖ Both implement Process approach with their respective purpose
- ❖ Emphasis on implementation of Legal and Regulatory requirements – Critical for ISO50001
- ❖ Both standards include the same requirement areas, each with a different focus – explained below

Integration

- ❖ Both can be integrated with other ISO standards (ISO14001, ISO45001) and with the business practices/ processes



Commerciality and Benefits

❖ ISO9001 and ISO50001

- Legal and Regulatory Compliance – Risk for non-compliance and relevant penalties minimized
- Emphasis on continuous improvement for optimization of operation
- Better decision making based on analysis of data and objective information
- Risk Management-Relevant risks identified and mitigated
- Employee Engagement required in both, with different roles
- Certification improves the reputation of the organization, provides competitive advantage and usually required for public agencies



Commerciality and Benefits

❖ ISO9001

- Streamlining of operations and improvement of customer satisfaction and loyalty
- Certification demonstrates commitment to quality and customer satisfaction

❖ ISO50001

- Energy efficiency implemented
- Energy savings
- Certification demonstrates organization's commitment to energy management and environmental protection/responsibility

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
Parallelism of two standards	Quality management vs Energy management QMS vs EnMS (and Performance) Customer satisfaction vs Energy performance Quality objectives vs Energy Performance Indicators EnPI's) Energy Use, Energy Consumption, Energy Efficiency and Energy Performance, SEU-Significant Energy Use	
1.0, 2.0, 3.0	Scope, Normative reference (relevant standard), Terms and Definitions – with focus on Quality management and Customer Satisfaction	Scope, Normative reference (relevant standard), Terms and Definitions – with focus on Energy Management and Energy Performance
4.0 Context of the Organization	Identify the external and internal issues, needs and expectations of interested parties relevant to the organization's purpose and the Quality Management System Define the scope of the QMS and issues affecting the products and services of the organization Establish, implement, maintain and continually improve the QMS, its processes and their interactions in order to improve the performance of the QMS. Processes include core and support	Identify the external and internal issues, needs and expectations of interested parties relevant to the organization's purpose and the Energy Management System Define the scope of the EnMS and issues affecting the energy performance of the organization Establish, implement maintain and continually improve the EnMS, its energy performance, its processes and their interactions

<p style="text-align: center;">ISO9001 & ISO50001 Requirements Similarities and Differences</p>	<p style="text-align: center;">ISO9001</p>	<p style="text-align: center;">ISO50001</p>
<p>5.0 Leadership</p>	<p>Top management must demonstrate its leadership and commitment to the effectiveness of the QMS through several actions such as providing all necessary resources and support etc.</p> <p>Ensure the customer and applicable statutory and regulatory requirements are determined and understood</p> <p>Establish, implement and maintain a Quality Policy that (among else) incorporates commitment to continually improve the QMS and satisfy applicable requirements</p>	<p>Top management must demonstrate its leadership and commitment to the effectiveness of the EnMS and of the Energy Performance through several actions such as providing all necessary resources and support etc.</p> <p>Ensure the supply of energy efficient products and services that affect the energy performance</p> <p>Establish, implement and maintain an Energy Policy that (among else same as ISO9001) incorporates commitments to:</p> <ul style="list-style-type: none"> • continually improve the EnMS and Energy Performance • satisfy applicable requirements that relate to Energy Use, Energy Consumption and Energy Efficiency • Support action plans that deal with the improvement of Energy performance

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
5.0 Leadership-con'ed	<p>Responsibilities and authorities must be defined and communicated to the organization</p> <p><u>Responsibility and authority must be assigned for several actions including ensuring the promotion of customer focus throughout the organization</u></p>	<p>Same as in ISO9001</p> <p><u>An Energy Management Team must be assigned for several actions (same as in ISO9001) including ensuring the implementation of action plans that relate to the improvement of the Energy Performance</u></p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
6.0 Planning	<p>For planning the QMS take into consideration the context of the organization and the needs of interested parties</p> <p>Determine the risks and opportunities to assure the QMS can achieve its purpose and intended results</p> <p>Implement action plans in order to minimize effect of risks and utilize opportunities for improvement and integrate them in the QMS processes</p> <p>Establish quality objectives that (among else) are relevant to conformity of products and services in order to enhance customer satisfaction</p> <p>Implement changes in the QMS in a controlled manner to ensure the integrity of the QMS</p>	<p>Same for the EnMS</p> <p>The same for the EnMS</p> <p>The same for the EnMS and Energy Performance. Plans should incorporate the method of verification of improvement of Energy Performance</p> <p>Establish Energy objectives and targets that (among else) examine the SEU's and take into consideration opportunities for improvement of Energy Performance</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
7.0 Support	<p>Must have the necessary resources for the establishment, implementation, maintenance and continual improvement of the QMS</p> <p>Includes people, infrastructure, environment, monitoring and measurement devices</p> <p>Ensure staff are competent based on training, skills and experience. Where necessary, obtain this competence</p> <p>Staff must be aware of the QP and how they contribute to its achievement and the consequences of not conforming</p> <p>Determine the internal and external communication that must take place relevant to the QMS</p>	<p>Same for EnMS and Energy Performance</p> <p>Same but highly technical subject</p> <p>Same for Energy Policy, Energy Objectives and Targets and the benefits of improved Energy Performance</p> <p>Same for EnMS In addition, implement a process by which anyone within the organization or even subcontractors can submit comments/ suggestions for improvement to the EnMS and its energy performance. Keep Records</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
7.0 Support cont'ed	<p>The QMS must include documented information as defined by the standard as well as any other the organization believes is necessary for the effectiveness of the QMS. This must be issued and revised in a controlled manner (as defined in the standard)</p>	<p>Same for EnMS</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
8.0 Operation	<p>Implement and control the processes needed in order to ensure its product and services conform to its requirements. Establish acceptance criteria. Keep relevant records.</p> <p>Outsourced processes must be controlled</p> <p>Communicate with customers regarding provision of information on products and services, contracts and orders, enquiries, and their feedback including complaints Ensure have the ability to offer the products and services requested and control any revisions to them.</p> <p>Implement controls to ensure that design and development (D&D) of products and services to ensure that all requirements for their design are satisfied. Includes planning -stages and controls for the D&D of product and services, requirements to be designed, verification and validation of products and services. Extensive description of requirements.</p>	<p>Same, for the SEU's (equipment, process, system utilizing significant energy) and also for facilities.</p> <p>Establish acceptance criteria and communicate them to relevant staff and subcontractors.</p> <p>Outsourced SEU's processes must be controlled</p> <p>N/A</p> <p>Must evaluate opportunities for improvement of energy performance for new, redesigned or renovated facilities, equipment, systems and processes that use energy and can affect significantly the energy performance. The results of the evaluation must be incorporated in the specification, design and supply processes.</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
8.0 Operation	<p>Must ensure processes, products and services obtained from suppliers conform to its requirements by implementing relevant controls. The requirements must be communicated to the suppliers. The performance of its suppliers will be evaluated.</p> <p>Must implement controls in the production of products and provision of services to ensure these conform to their requirements. Includes several requirements such as availability of instructions, identification and traceability, control of non-conforming products and services, post delivery activities etc.</p>	<p>When procuring energy using products, equipment and services that are expected to have a significant impact on the organization's energy performance, the organizations must establish and implement criteria for evaluating their energy performance during their lifetime.</p> <p>When obtaining energy-using products, equipment and services that will affect significantly the SEU's, the organization must inform the suppliers that energy performance is one of the evaluation criteria for procurement.</p> <p>The organization must define and communicate to its suppliers the specifications related to the required energy performance of the supplied equipment and services and for the purchase of energy.</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
9.0 Performance Evaluation	<p>Must implement methods for monitoring, measurement, analysis and evaluation of the effectiveness of QMS.</p> <p>Must analyze and evaluate the data collected through the several mechanisms defined in the standard.</p> <p>These include Conformity of products and services, Degree of customer satisfaction, performance and effectiveness of the QMS, etc.</p>	<p>Must evaluate the energy performance and the effectiveness of the EnMS</p> <p>Must monitor, measure, analyze and evaluate the EnMS and the Energy Performance.</p> <p>For this purpose must define:</p> <p>a. What needs to be measured including at least the following:</p> <ul style="list-style-type: none"> ▪ The effectiveness of action plans in achieving energy objectives and targets ▪ The energy performance indicators (EnPI's) ▪ The operation of SEU's ▪ The current and expected energy consumption <p>b. The methods and timing for implementing the above evaluation</p> <p>The improvement in the energy efficiency must be evaluated by comparing the value of the EnPI with the respective Energy base, EnB. Where there are significant deviations in these values, the organization must carry out investigation and decide how to handle them. Relevant records must be maintained.</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
9.0 Performance Evaluation	<p>N/A</p> <p>Must carry out internal audits on planned intervals, based on a predefined method in order to verify whether the QMS is effectively implemented and maintained and it conforms to the requirements of the standard and of the organization Where necessary, C/A's must be taken and records must be maintained</p> <p>Top management must review the QMS's continuing suitability, adequacy and effectiveness, at planned intervals. For this, specific subjects must be evaluated and specific actions must result. Such subjects include customer satisfaction, quality objectives, conformance of products and services and performance of external providers</p>	<p>During planned intervals, the organization must evaluate the conformance to legal and other requirements related to energy efficiency, energy use and consumption and the EnMS.</p> <p>Where necessary, C/A's must be taken and records must be maintained.</p> <p>Same and in addition to verify that the Energy Performance is improving</p> <p>Similar but subjects include Energy policy, satisfaction of Energy objectives and targets, energy performance, EnPI's, EnB's, implementation of action plans, integration of the EnMS with the organization's business processes, improvement of staff competencies, awareness and communication</p>

ISO9001 & ISO50001 Requirements Similarities and Differences	ISO9001	ISO50001
10 Improvement	<p>Must identify opportunities to improve the performance and effectiveness of the QMS</p> <p>Must implement necessary actions to improve customer satisfaction</p> <p>When non-conformity is identified, including customer complaints, take C/A to correct it and deal with the consequences</p> <p>Must continually improve the suitability, adequacy and effectiveness of the QMS taking into consideration the results of the management review</p>	<p>Not mentioned</p> <p>N/A</p> <p>Same but no customer complaints mentioned</p> <p>Same with the addition that the organization must prove the continual improvement of also the Energy Performance.</p>

SYNERGIES AND IMPLEMENTATION STRATEGY

❖ IMPLEMENTATION – CONSIDER ORGANIZATION'S PRIORITIES

- **ISO9001** - Immediate need for customer satisfaction, competitive advantage, clarification of methods of work, responsibilities and authorities, etc.
 - Some methods/ practices already implemented
- **ISO50001**- Immediate reduction of energy cost from energy consumption and Energy Management
 - Implementation of Legal and regulatory requirements for carbon and other emissions
 - External consultancy maybe required – highly technical subject
- If no external pressures exist, maybe easier to develop and implement first the ISO9001 and then integrate the ISO50001 in order to introduce first standardization and build a momentum

❖ SYNERGIES/ INTEGRATION

- Same philosophy PDCA approach
- The standards have synergies as demonstrated by the commonality in their requirements
- Integrating the requirements of the two standards with the contribution of the organization's staff (both systems require staff involvement), and maybe the contribution of an external consultant will create a comprehensive management system that addresses quality management, energy management and environmental protection.
- The Organization will have efficiency in carrying out common management processes such as internal audits, management reviews and acquiring staff competencies.

ISO9001 & ISO50001 TOOLS

