MUCR Quality Management Standard

Introduction

A brief overview of MUCR:

Ever since its inception, the MU Carbon Registry (MUCR) has been committed to delivering cutting-edge solutions to its clients within the realm of Carbon Markets and Carbon Credits issuances. MUCR places a strong emphasis on adhering to best-in-class and globally accepted standards, providing an opportunity to create high-integrity Carbon Projects capable of issuing reliable Carbon Credits.

To ensure that all projects onboarded onto the registry meet the most stringent global requirements, MUCR rigorously enforces the implementation of STEM initiatives alongside precise and efficient GHG quantification practices. These stringent requirements guarantee the quality and integrity of both the Registry and the associated Projects. MUCR is devoted to collaborating closely with our clients, ensuring that every registered project employs the most appropriate and well-suited processes for the issuance of accurate, transparent, and authentic Carbon Credits. Project Proponents are strongly encouraged to embrace new and innovative approaches that optimize the project for its most successful completion and target achievement.

Situated at the heart of the United Kingdom, the MU Carbon Registry benefits from a robust corporate structure, providing reputable expertise in the scope of environmental services. Additionally, being within a jurisdiction with a robust legal system enhances our ability to offer reliable and secure services, further solidifying our commitment to maintaining the highest standards in the carbon market industry.

Disclaimer

This document shall be subject to regular updates and all members involved with MUCR must ensure that they are using the most current version of the document. This is the February 2024 version.

Scope

The MU Carbon Registry is pleased to provide you with the following document. The MUCR Quality Management Standard ensures that all Project Proponents implement both Project-Specific and STEM-Specific procedures. This commitment guarantees that the desired Project Activity maintains the highest quality throughout the duration of its lifecycle. The implementation of rigorous standards reflects our dedication to upholding excellence and integrity in carbon project management.

This document provides an outline of MUCR's quality management standards to provide normalised systems and processes to ensure a project's high level of performance and sustainability.

The numerous potential benefits for a Project Proponent to implement such processes in their Project Activity are:

a) The ability to consistently issue Carbon Credits and maintain a Project Activity that meets the Registry's, the buyers', and applicable statutory and regulatory requirements demonstrate the unwavering commitment to excellence in environmental stewardship.

b) facilitating opportunities to enhance the buyers' satisfaction;

c) addressing risks and opportunities associated with its context and objectives;

d) the ability to demonstrate conformity to specified quality management system requirements.

This Standards document should be used for both internal and external parties involved in the Project Activity (where applicable). Therefore, all members involved should demonstrate an adherence to the contents of this document.

Quality Management: Core Principles

MUCR encourages every Project Proponent to adhere the following core principles below. These core quality management principles outlined have been highlighted by various globally accepted standards and are as follows. :

- Customer Focus: Prioritize issuing Carbon Credits that are not only relevant but also real, accurate, and transparent. This ensures a client-centered approach that aligns with the needs and expectations of all stakeholders involved.

- Leadership: Establish robust governance for the Project Activity, emphasizing strong leadership to guide the project through its various stages. This leadership is essential for effective decision-making and project success.

- Engagement of Involved Members: Foster active engagement among all project members, encouraging the pursuit of the latest and best practices throughout the lifecycle of the project. Collaboration and commitment from all stakeholders are key to achieving high-quality outcomes.

- Process Approach: Implement a systematic process approach to project management. This involves defining and optimizing processes to enhance efficiency, consistency, and overall project performance. By adopting a process-oriented mindset, projects can better navigate complexities and ensure streamlined operations.

- Improvement: Embrace a culture of continuous improvement. Regularly assess and enhance processes, methodologies, and outcomes. This commitment to ongoing improvement is vital for staying adaptive, efficient, and aligned with evolving standards and industry best practices.

- Evidence-Based Decision Making: Base decisions on globally accepted references and evidence. Utilizing credible and recognized sources ensures

that decisions are grounded in sound data and industry-accepted standards, promoting transparency and reliability in the decision-making process

Risk Management: Risk Based Thinking (ISO 9001)

In the context of project management, adopting a risk-based approach (thinking) is paramount to establish an effective project Quality Management System. MUCR extends to ensure that all Project Proponents explicitly plan and implement actions to address both risks and opportunities throughout their projects. In the project landscape, opportunities may manifest in favorable situations that contribute to achieving intended results. These situations could include the ability of the project to attract stakeholders, innovate new project products and services, reduce resource waste, or enhance overall productivity. However, it's crucial to acknowledge that actions to capitalize on opportunities should also encompass a thoughtful consideration of associated risks. Risks, defined as the effect of uncertainty, can introduce both positive and negative outcomes, necessitating a balanced and proactive approach to uncertainty management within the project framework.

To align with the requirements of the MUCR in a project setting, members must strategically plan and execute measures to tackle potential risks and leverage opportunities throughout the various stages of their Project Activity. This approach not only forms the foundation for enhancing the effectiveness of the project Quality Management System but also ensures superior project outcomes while mitigating adverse effects.

In addition to emphasizing the principles of risk-based thinking, it is essential to note that this process aligns with the guidelines and requirements set forth by the ISO 9001 standard. By incorporating risk-based thinking principles within project management practices, in accordance with the ISO 9001 standard, the Project Activity the implementation ensures a comprehensive and robust system that not only meets international standards but also fosters continuous improvement and excellence in project outcomes.

Notice

The Project Proponent is required to comprehensively outline all initiatives, steps, processes, and solutions implemented in the Project Design Document to align with the stipulations specified in this document. It is important to note that an additional report (separate Quality Management Report) detailing the Project Proponent's efforts to meet the quality management requirements of MUCR is not necessary as per the Registry's directives.

References

- ISO 9000 Quality management systems — Fundamentals and vocabulary provides essential background for the proper understanding and implementation of this International Standard;

- ISO 9004 Managing for the sustained success of an organization — A quality management approach.

- ISO 14064-1: Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

- ISO 14064-2: Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emission reductions or removal enhancements

- ISO 14064-3: Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

Definitions

Carbon Credit(s): A carbon credit is a tradable permit or certificate that represents the reduction, removal, or avoidance of one metric tonne of carbon dioxide (CO2) or an equivalent volume GHGs, used as a mechanism to incentivize and regulate emission reductions and promote sustainable practices.

Carbon Market: a system designed to regulate and trade greenhouse gas emissions allowances or credits, with the overarching goal of mitigating climate change. Within this market, entities are allocated or can purchase a limited quantity of carbon credits, each representing a specific amount of greenhouse gas emissions. Participants, such as businesses or nations, can trade these credits as commodities. The carbon market operates on the principle of creating economic incentives for entities to reduce their carbon footprint. It provides a mechanism for the buying and selling of emission allowances, encouraging the adoption of cleaner technologies and practices while facilitating the overall reduction of greenhouse gas emissions on a global scale.

Project Design Document: A concise document that outlines the project's goals, scope, participants, methodology for measuring emissions, baseline emissions, emissions reductions, additionality, and monitoring and verification plan. It serves as a key document for carbon offset initiatives and ensures transparency and adherence to international standards.

Project Activity (project): Projects that conduct a verified activity of environmental conservation, energy efficiency or renewable energy which reduces, avoids, or removes GHG emissions from the atmosphere and contributes to the mitigation of climate change. These types of projects also incur the issuance of Carbon Credits.

Registry: The MU Carbon Registry

Quality Management System (QMS): A Quality Management System, is a comprehensive framework of policies, processes, and documented procedures established by an organization to ensure that its products or services consistently meet or exceed customer expectations. It encompasses the entire spectrum of activities within an organization, fostering a systematic approach to quality that includes planning, execution, monitoring, and continuous improvement. A robust QMS integrates key principles such as customer focus, leadership engagement, process approach, evidence-based decision-making, and stakeholder involvement. Its primary objectives are to enhance customer satisfaction, achieve conformity to specified requirements, and drive continual advancement in overall organizational performance. Through regular audits and assessments, the QMS aims to identify opportunities for improvement and address non-conformities, ultimately contributing to the sustained success and competitiveness of the organization in its chosen market or industry.

ISO 9000: Quality Management Systems - Fundamentals and Vocabulary: Provides essential background for the proper understanding and implementation of the International Standard on Quality Management Systems (ISO 9000).

ISO 9004: Managing for the Sustained Success of an Organization - A Quality Management Approach: Outlines a quality management approach for achieving and maintaining the long-term success of an organization.

ISO 14064-1: Greenhouse Gases - Part 1: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals: Offers specifications and guidance for quantifying and reporting greenhouse gas emissions and removals at the organizational level.

ISO 14064-2: Greenhouse Gases - Part 2: Specification with Guidance at the Project Level for Quantification, Monitoring, and Reporting of Greenhouse Gas Emission Reductions or Removal Enhancements: Provides specifications and guidance for quantifying, monitoring, and reporting greenhouse gas emission reductions or enhancements at the project level.

ISO 14064-3: Greenhouse Gases - Part 3: Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions: specifications and guidance for the validation and verification processes related to greenhouse gas assertions.

MUCR Project Specific Standard

Scope: The Project's Requirements

This section is dedicated to outline the specific requirements needed for incorporation of a Quality Management System when a Project Activity needs to:

- Demonstrate its ability to consistently monitor the Project Activity and issue Carbon Credits that meet the requirements set out by MUCR and all statutory, regulatory requirements of its designated location.

- Implement effective applications and processes, including improvements to enhance and improve the various aspects of the project.

It is crucial to acknowledge that while the components delineated in this section are generic and universally applicable to all Project Activities undergoing registration with the Registry, there are instances wherein Project Proponents may need to implement solutions not expressly covered in this document. In such cases, it is obligatory for Project Proponents to promptly inform all pertinent members of MUCR.

Context of the organisation and Project

An Overview of the Project Activity

In order for the Registry to comprehend the Quality Management Initiatives taken, it is imperative for the Project Proponent to provide a clear and comprehensive overview of the project, encompassing the following elements:

- Project Title/Location/Jurisdiction

- State and Conditions of the Area Prior to Project Initiation: The Project Proponent must provide a detailed assessment of the ecological, infrastructural, and socio-economic conditions present in the designated area before the project's initiation.

This should include factors such as existing vegetation cover, infrastructural facilities, demographic trends, and economic activities.

- Technologies/Measures to be Utilized and/or Implemented: it is key to accurately delineate the technologies and strategies intended for use and implementation within the project.

- Project Boundary: Specify any geographical, economic, or corporate boundaries associated with your project.

- All Members Involved, Both Internal and External: Enumerate all individuals and entities involved in the project, both internally and externally and explicitly explain their implications and roles.

Outlining the Project Activity's Context:

The organization is required to identify and outline external and internal risks and issues pertinent to its purpose and strategic direction, which may impact its ability to achieve the intended results of the Quality Management System. Continuous monitoring and review of information concerning these external[1] and internal issues are mandated.

[1]: External issues strongly correlate with risks outside the designated boundaries of the project. To delineate the boundaries of the Project Activity, the Project Proponent is strongly encouraged to conduct a boundary assessment following the guidelines outlined in ISO 14064 Part 2, "Specification with Guidance at the Project Level for Quantification, Monitoring, and Reporting of Greenhouse Gas Emission Reductions or Removal Enhancements," as well as in the MUCR Registry Standard and MUCR Registry Program documents. This process enables both the Project Proponent and the Registry to understand the extent and scope of the Project's Quality Management System.

Outlining the relevance and scope of the Quality Management System.

The Project Proponent is required to determine the boundaries and applicability of the Quality Management System to establish its scope.

When determining this scope, the organization must consider:

a) the relevant external and internal issues;

b) the requirements of all the relevant parties involved in the Project Activity;

c) the scope of the project along with its related activities and operations (beyond the scope of Carbon Credit issuances).

The project Proponent is required to define all the requirements and define if they are applicable within the determined scope of its Quality Management System. The scope of the project's Quality Management System must be maintained as documented information throughout the lifecycle and issuance phase of the project. The scope shall state the types of implementations, solutions, technologies used and services covered, and provide justification for any requirement that the organization determines is not applicable to the scope of its Quality Management System.

The conformity and acceptance to this standard may only be given if:

- the requirements determined as not being applicable do not affect the Project Proponent's ability or responsibility to ensure the conformity of the project's products and services, and;

- the requirements have been approved by MUCR.

Quality Management System and Processes

The Project Proponent is required to establish, implement, maintain, and continuously improve a Quality Management System that encompasses the necessary processes and their interactions. All of the implementations set out towards the successful set up of a Quality Managements System must be outlined in the Project Design Document.

The Project Proponent must highlight all the processes and implementations needed for the Quality Management System and their application throughout the organization, and must thus:

a) determine the inputs required and the outputs expected from these processes;

b) determine the sequence and interaction of these processes;

c) determine and apply the criteria and methods (including monitoring, measurements and related performance indicators) needed to ensure the effective operation and control of these processes;

d) determine the resources needed for these processes and ensure their availability;

e) assign the responsibilities and authorities for these processes;

f) address the risks and opportunities related to the Project Activity;

g) evaluate these processes and implement any changes needed to ensure that these processes achieve the project's desired outcome

h) improve the processes and the Quality Management System.

To the extent necessary, the Project Proponent shall:

a) maintain documented information to support the operation of its processes;

b) retain documented information to have confidence that the processes are being carried out as planned.

Leadership

General overview

The Project Proponent is requested to demonstrate leadership and commitment in both monitoring and developing the overall Project Activity, as well as in relation to the implemented Quality Management System. Therefore, it is imperative for the Project Proponent to:

a) Take accountability for the effectiveness of the Quality Management System;

b) Ensure that the quality policy and quality objectives are established for the Quality Management System and are compatible with the context and strategic direction of the project;

c) Ensure the integration of the quality system requirements into the project's operations;

d) Promote the use of the process approach and risk-based thinking;

e) Ensure that the resources needed for the Quality Management System are available;

f) Ensure that the Quality Management System achieves its intended results;

g) Engage, direct, and support individuals to contribute to the effectiveness of the Quality Management System;

h) Promote improvement;

i) Support other relevant management roles in demonstrating their leadership as it applies to their responsibilities.

Registry and Carbon Market focus

The Project Proponent shall demonstrate the leadership and commitment with respect to both the Registry and Carbon Credit buyers by ensuring that:

a) All relevant requirements outlined by the current relevant Carbon Markets, Registry and relevant jurisdiction must be taken into consideration and met.

b) The risk and opportunities that may affect conformity of the project and Carbon Credits and the ability to enhance buyer satisfaction are determined and addressed.

c) The focus on enhancing customer and Registry satisfaction is maintained.

Establishing a quality policy.

All participants engaged in the formulation of the Quality Management System are mandated to establish, implement, and uphold a quality policy that:

a) Aligns with the purpose and context of the Project Activity, supporting its strategic direction;

b) Serves as a framework for defining quality objectives;

c) Articulates a commitment to meeting applicable requirements;

d) Expresses a dedication to the ongoing enhancement of the Quality Management System.

Delivering the quality policy to MUCR and relevant parties.

The Project Proponents should endeavour to in its best of capabilities, translate all the details outlined in the PDD with respect to the policies instilled for the Quality Management System to the Registry. The quality policy set in place should therefore:

a) Be available and be maintained as documented information and must be highlighted in the PDD;

b) Be communicated, understood and applied with all relevant members to the Project Activity.

c) Be available to the Registry and all other partied as appropriate.

Organisational roles, responsibilities and authorities.

The Project Proponent shall ensure that the responsibilities and authorities for relevant roles are assigned, communicated and understood within the organization. It shall assign the responsibility and authority for:

a) ensuring that the Quality Management System conforms to the requirements of this Standard;

b) ensuring that the processes are delivering their intended outputs;

c) reporting on the performance of the Quality Management System and on opportunities for improvement;

d) ensuring the promotion of customer focus throughout the organization;

e) ensuring that the integrity of the Quality Management System is maintained when changes to the Quality Management System are planned and implemented.

Planning

When planning for the Quality Management System, the Project Proponent shall consider the issues and the requirements stated above and determine the risks and opportunities that need to be addressed to:

a) give assurance that the Quality Management System can achieve its intended result(s);
b) enhance and refine the desirable effects;
c) prevent, or reduce, undesired effects;
d) focus efforts towards improvement.

Furthermore, the Project Proponent shall when setting up the initial phases of the Project Activity establish quality objectives at relevant functions, levels and processes needed for the Quality Management System.

The quality objectives must therefore meet the following:

a) the objectives must be consistent with the quality policy and quality objectives;

b) the objectives must be measurable and/or quantifiable.

c) the objectives must take into account applicable requirements;

d) the objectives must be relevant to conformity of products and services;

e) and oriented to the enhancement of the overall Project Activity's satisfaction;

f) the objectives must be monitored;

g) the objectives must be communicated;

h) the objectives must be updated as appropriate

The Project Proponent shall maintain documented information on the quality objectives.

When planning how to achieve the objectives set out and to enhance the overall success of the project, the organisation shall determine:

a) What will be done;

b) What resources will be required;

c) Who will be responsible;

d) When it will be completed;

e) How the results will be evaluated.

Planning of changes

When the Project Proponent determines a need for changes to certain aspects of the Quality Management System, the changes should also be carried out in a planned manner. The Project Proponent shall therefore consider:

a) The purpose of the changes and their potential consequences;

b) The integrity of the Quality Management System;

c) The availability of resources;

d) The allocation or reallocation of responsibilities and authorities.

If possible, it is judged to be more profitable to conduct alterations to the Quality Management System during overall re-evaluations of the Project Activity' overall Project Development Document. This mitigates the need to conduct several audits phases incurring additional costs and delays to the overall project. It is key that all planning procedure instilled into the Quality Management System remains in line with the overall Project Activity's audit schedule.

Support

Resources

This section is dedicated to offer an outline on the type of support (both from the members involved and external members) in order to structure and maintain a successful management system.

The Project Activity and Project Proponent shall provide all the resources needed to ensure valid, reliable, relevant and transparent results when monitoring and measuring is used to verify the conformity of the Project and Carbon Credit emissions to the requirements outlined by the Registry.

The Project Proponent shall therefore ensure that the resource provided is:

a) Suitable for the specific type of monitoring and measurement activities being undertaken;

b) Are maintained to ensure their continuing fitness for their purpose.

The Project Proponent shall and must retain appropriate documents information as evidence of fitness for purpose of the monitoring and measurement resources.

Measurement and Traceability.

When measurements traceability is a requirement or is considered by the Project Proponent to be an essential part of providing confidence in the viability of measurement results, measuring equipment shall be:

a) Calibrated or verified, or both, at specific intervals, or prior to use, against measurement standards traceable to international or national measurements standards; when no such standards exist, the basis used for calibration or verification shall be retained as documented information;

b) Identifies in order to determine their status;

c) Safeguard from adjustments, damage or deterioration that would invalidate the calibration status and subsequent measurement results.

The Project Proponent shall determine if the validity of the previous measurement results has been adversely affected when measurement equipment is found to be unfit for its need purpose, and shall take appropriate action as necessary.

Note: the processed and solutions implemented in this section must remain in line with the elements outlined in the ISO 14064-part 2 Standard and with MUCR Monitoring Standard as well.

Organizational knowledge

Organisational knowledge is foundational information that is used and shared to achieve the organization's outlined objectives. The Project Proponent must determine and gather all the knowledge necessary to ensure that the Project Activity is capable of upholding all the requirements set out in the Project Design Document and that the Quality Management System is capable of ensuring consistency and conformity of the Carbon Credits issued and additional services offered by that Project Activity. This knowledge shall be maintained and be made available to the extent necessary. When addressing the changing need and trends, the Project Proponent must consider its current knowledge and determine how to acquire or access any necessary additional knowledge and required updates.

Note: Organizational knowledge can be derived from:

a) Internal sources, such as intellectual property, experience-based knowledge, lessons learned from both failures and successful projects, the documentation and sharing of unrecorded knowledge and experience, and the outcomes of improvements in processes, products, and services.

b) External sources, including standards, academia, conferences, and the acquisition of knowledge from customers or external providers.

Competence of the designated management team.

It is important that with regards to the Quality Management System that the Project Proponent as well as all members involved dedicated a separate team capable of ensuring that the Project Activity meets the requirements of the Quality Management System. The Team dedicated for this activity must be outlined in the PDD and additional information may be requested by the Registry to understand the implication of the designated responsible members.

The relevant members shall:

a) Determine the necessary competence of personnel doing the work under its control that affects the performance and effectiveness of the Quality Management System.

b) Ensure that these persons are competent on the basis of appropriate education, training or experience.

c) Where applicable, take action to acquire the necessary competence, and evaluate the effectiveness of the actions taken;

d) Retain appropriate document information as evidence of competence.

Awareness

The Project Proponent must ensure any entity conducting work for the Project Activity are aware of :

a) The quality policy;

b) Relevant quality objectives;

c) Their contribution to the effectiveness of the Quality Management System, including the benefits of the improved performance;

d) The implications of not conforming with the Quality Management Systems requirements;

Communication

The Project Proponent shall determine the internal and external communications relevant to the Quality Management Systems including:

a) On what it will communicate;

b) When to communicate;

c) With whom to communicate;

d) how to communicate;

e) who communicates

Documented information

the Project Activity's Quality Management System shall include:

a) documented information required by the Project Activity;

b) documented information being necessary for the effectiveness of the Quality Management System.

c) The documented information for a Quality Management System can differ from one organisation to another due to:

- its size of the organisation and its type of activities, processes, products and services.

- Complexity

- Competence of the personnel.

Creating/updating/bookkeeping.

When creating and updating documented information, relevant responsible members shall ensure appropriate:

a) identification and description (e.g. a title, date, author, or reference number);
b) format (e.g. language, software version, graphics) and media (e.g. paper, electronic);
c) review and approval for suitability and adequacy.

Note: in the case of any bookkeeping tasks associated to GHG audit, it is important to follow the standards outlined by the ISO 14064-1 and guidelines offered by the GHG protocol. This shall offer the Registry an opportunity to productively comprehend all GHG logs and records performed by the Project Proponent.

Control of documented information

Documented information required by the Quality Management System and by this Standard shall be controlled to ensure:
a) it is available and suitable for use, where and when it is needed;
b) it is adequately protected (Project Proponents may benefit from the tools available from the MUCR Registry Platform).

For the control of documented information, the Project Proponent shall address the following activities, as applicable:

a) distribution, access, retrieval and use;
b)storage and preservation, including preservation of legibility;
c)control of changes;
d) retention and disposition.

Documented information of external origin determined by the Project Proponent's organisation to be necessary for the planning and operation of the Quality Management System shall be identified as appropriate, and be controlled.

Documented information retained as evidence of conformity shall be protected from unintended alterations.

Project Specific Performance Evaluation

The Project Proponent must determine:

a) what needs to be monitored and measured;

b) the methods for monitoring, measurement, analysis and evaluation needed to ensure valid results;

c) when the monitoring and measuring shall be performed;

d) when the results from monitoring and measurement shall be analysed and evaluated.

The Project Proponent and all members involved shall evaluate the performance and the effectiveness of the Quality Management System.

Analysis and evaluation

The Project Proponent and relevant members involved must analyse and evaluate appropriate data and information arising from monitoring and measurement.

The results of analysis shall be used to evaluate:
a) conformity of products and services;
b) the degree of customer satisfaction;
c) the performance and effectiveness of the quality management system;
d) if planning has been implemented effectively;
e) the effectiveness of actions taken to address risks and opportunities;
f) the performance of external providers;
g) the need for improvements to the quality management system.

Internal Audits

The Project Proponent must conduct regular and internal audits to ensure that the project is being maintained to the highest standard. The Project Proponent shall conduct internal audits at planned intervals to provide information whether the Quality Management Systems conform to the following:

a) The Project Proponent's own requirement for its Quality Managements System;

b) The requirements set out by the Registry as well as International Standards

Any audits requiring carbon accounting aspects should follow the guidelines outlined in the GHG protocol and ISO 14064 part 1 and part 2.

In order to successfully perform internal audits, it is encouraged for the Project Proponents to:

a) Plan, establish, implement and maintain an audit programme including the frequency, methods, responsibilities, planning requirements, which shall take into consideration the importance of the process concerned, changes affecting the organisation, and the results of the previous audits;

b) Define the audit criteria and scope for each audit;

c) Select auditors and conduct audits to ensure objectivity and the impartiality of the audit process

d) Ensure that the results to the audits are reported to relevant managements;

e) Take appropriate correction and corrective actions without undue delay;

f) Retail documented information as evidence of the implementation of the audit programme and the audit results.

Management Review.

The members responsible for the quality management standard shall review the project's quality managements system and its executions throughout its lifecycle to ensure its continuing suitability, adequacy, effectiveness and alignment with the strategic direction of the Project Activity and Project Proponents. Members involved in this process should also take into consideration:

a) the status of actions from previous management reviews;

b) changes in external and internal issues that are relevant to the quality management system;

c) information on the performance and effectiveness of the quality management system, including trends in:

- customer and buyers satisfaction and feedback from relevant interested parties;

- the extent to which quality objectives have been met; process performance and conformity of products and services;
- nonconformities and corrective actions;

- monitoring and measurement results;

- audit results;

- the performance of external providers;

d) the adequacy of resources;

e) the effectiveness of actions taken to address risks and opportunities;

f) opportunities for improvement.

Improvement

In order to ensure that the Project Activity set out by the Project Proponent constantly evolves to meet global Carbon Market requirements, it to focus and dedicate attention to improving both the Quality Management System and overall project.

The Project Proponent shall thus determine and select opportunities for improvement and implement any necessary actions to meet customer requirements and enhance customer satisfaction.

These shall include:

a) improving the Project's Activity, Carbon Credit issuance and additional services to meet new requirements as well as to address future needs and expectations;

b) correcting, preventing or reducing undesired effects;

c) improving the performance and effectiveness of the Quality Management System.

NOTE Examples of improvement can include correction, corrective action, continual improvement, breakthrough change, innovation and re-organization.

Nonconformity and corrective action

In the event of a nonconformity, including those originating from complaints, the Project Proponent is required to:

a) React promptly to the nonconformity and, as applicable:

1) Take action to control and correct it.

2) Deal with the consequences.

b) Evaluate the need for action to eliminate the cause(s) of the nonconformity to prevent its recurrence or occurrence elsewhere. This involves:

1) Reviewing and analyzing the nonconformity.

2) Determining the causes of the nonconformity.

3) Assessing the potential existence of similar nonconformities or their potential occurrence.

c) Implement any necessary actions.

d) Review the effectiveness of any corrective action taken.

e) Update risks and opportunities identified during planning, if necessary.

f) Make changes to the Quality Management System, if deemed necessary.

Corrective actions must be commensurate with the effects of the encountered nonconformities. The organization is mandated to maintain documented information as evidence of:

a) The nature of the nonconformities and any subsequent actions taken.

b) The results of any corrective action.

Continual improvement

The organization shall continually improve the suitability, adequacy and effectiveness of the quality management system.

STEM Specific Application Standard

The second part of MUCR's quality management standard is focused on ensuring that all STEM (Science, Technology, Engineering, and Mathematics) implementations adhere to defined standards. The purpose of implementing such a standard is two-fold, benefiting both the Registry and the Project Proponent. It provides a comprehensive understanding of the various STEM components within the Project Activity.

By implementing this standard, it becomes easier to identify and address any issues that may arise throughout the lifecycle of the project. This proactive approach contributes to the overall success and efficiency of the project. To facilitate the proper implementation of STEM-oriented Quality Management systems, the following guidelines are provided. These guidelines serve as a framework for maintaining and enhancing the quality of STEM-related project activities within the MUCR's scope.

Note: It is very important for Project Proponents to include the elements of the first section into their STEM specific Quality Management Systems. The element included in the PDD to address the requirements in this section should also be in line with that of the first section.

Scope and relevance

This section is dedicated to outline the specific requirements needed for incorporation of a Quality Management System for the STEM based implementation of the projects. As outlined in the first section, the implementation of a Quality Management System for all STEM components is necessary to:

- Demonstrate its ability to consistently monitor each STEM component and ensure that the Project Activity is operating accordingly and issuing Credits that meet the requirements set out by MUCR and all statutory, regulatory requirements of its designated location.

- Implement effective applications and processes, including improvements to enhance and improve the various aspects of the project.

To ensure seamless adherence to the MUCR Quality Management Standard, it is imperative to meticulously outline all STEM-based components, encompassing both internal and external STEM-implementations that may shape the project's final outcome.

A crucial step in this process is to provide a detailed enumeration of all technologies and tools employed throughout the project's lifecycle. The Project Proponent is expected to provide a comprehensive list, shedding light on the specific applications and methodologies utilized. Equally important is the requirement for the Project Proponent to justify the relevance and purpose behind each implementation, demonstrating a thoughtful consideration of how these elements contribute to the overall success of the project.

This comprehensive approach not only ensure and upkeeps transparency but also aids in creating a nuanced understanding of the project's technological landscape. Through the thoughtful justification of each component, the Project Proponent not only ensures compliance with MUCR standards but also establishes a robust foundation for effective quality management, enhancing the project's overall integrity and success.

Note: Internal STEM-implementation refer to the use of all STEM components that have a direct effect of the project's overall outcome. These components are also considered under the responsibility and control of the Project Proponent (for example, in the case of a solar project, the use of solar tracking systems would be considered as internal components of the project).

Alternatively, external components of the project refer to components that indirectly influence the outcome of the project and that are out of the Project Proponent's control and responsibility. In the context of a solar project, factors such as changes in local regulations, fluctuations of the electricity grid or major monitoring changes implemented by the local government could be examples of external components, as they are external influences that the Project Proponent cannot directly govern.

Overview of STEM based solutions

An Overview of the STEM-based Implementations and components of the Project Activity

In order for the Registry to comprehend the Quality Management Initiatives taken, it is imperative for the Project Proponent to provide a clear and comprehensive overview of the STEM components, encompassing the following elements:

- List of all STEM based components/ Origin/ Make and Model/ Location / Calibration frequency / Intended life cycle / repairs and maintenance.

- Technologies/Measures to be Utilised and/or Implemented: it is key to accurately delineate the technologies and strategies intended for use and implementation within the project.

- All Members Involved, Both Internal and External: Enumerate all individuals and entities involved in the implementation of the components, both internally and externally and explicitly explain their implications and roles. This must also include parties involved in the monitoring, managements, maintenance and repairs of the components.

In addition, the Project Proponent is requested to provide a clear demonstration as to the relevance of each components used as well as the parties involves. The Project Proponent is also required to provide information as to why the components used are in line with the requirements set out in this document.

Implementation of STEM based solution

To guarantee compliance with Registry Standards in the execution of STEM-based initiatives, it is imperative to establish a robust Quality Management System (QMS) that meticulously oversees and regulates the implementation of each facet of the project. It is paramount that all stakeholders engaged in the execution of the project adhere to the following imperatives:

a) Assure that the execution of project components aligns meticulously with the requisites stipulated by the Registry, including all pertinent legal jurisdictions.

b) Ensure strict adherence to the specifications delineated in the Project Design Document (PDD) throughout the implementation of project components.

c) Clearly articulate a commitment to fulfilling all applicable requirements.

d) Explicitly express and ensure adherence to the Project Based Quality Management System.

The QMS framework devised for this undertaking must be comprehensively elucidated within the Project Design Document. The Project Proponent bears the responsibility of validating the pertinence and viability of the Quality Management System. Should a particular methodology prescribe specific criteria pertinent to this process, the Project Proponent must guarantee its thorough and apt implementation. This meticulous approach aims to instil confidence in the execution of STEM initiatives, assuring the confluence of regulatory standards, legal compliance, and adherence to established project parameters.

Operations and Maintenance

This section, is dedicated to highlight the Registry's requirements during the operation stages of the Project Activity. It is imperative to ensure that all STEM-based components are utilized in strict accordance with relevant specifications, meeting operational requirements and achieving their intended functionalities. Additionally, the Project Proponents must possess the capability to implement comprehensive maintenance schedules, thereby ensuring both the safety and sustainability of the Project Activity.

To establish an effective Quality Management System (QMS) for the operations and maintenance of project components, Project Proponents are mandated to:

- outline all members related to the frequent operations and maintenance of the STEM based components.

- The Ensure that the utilization of all STEM-based components aligns with Registry Standards and conforms to the criteria specified in the ISO 9001:2015.

- The project proponent must ensure that the outlined components perform all activities and tasks outlined in the PDD.

The Registry strongly recommends Project Proponents to incorporate a Maintenance Schedule within their PDD to enhance transparency for both the Registry and prospective buyers regarding the upkeep of all STEM-based components. In the development of a maintenance plan, Project Proponents must:

- Maintain and outline the frequency of maintenance of each component used under a maintenance schedule.

- Justify the relevance of the Maintenance Schedule and each components added.

- Highlight the relevance of maintaining the outlined component.

Monitoring

The effective monitoring and oversight of STEM-based initiatives during their operational phase are paramount to ensuring compliance with Registry Standards and the sustained success of the project. To facilitate a comprehensive monitoring framework, Project Proponents must:

- Establish Monitoring Protocols: Develop and implement robust monitoring protocols to track the utilisation of STEM-based components. These protocols should

encompass regular assessments to verify adherence to Registry Standards, ISO 9001:2015, and elements stated in all sections above.

- Regularly Audit Operations: Conduct regular audits of project operations to confirm that STEM components are being utilized in accordance with defined parameters. This includes scrutinizing maintenance schedules to assess their effectiveness in upholding the safety and sustainability of the project.

- Periodic Compliance Checks: Institute periodic compliance checks to ensure that operational activities align with all relevant requirements, legal jurisdictions, and specified standards. This proactive approach enhances the project's resilience against potential deviations and non-compliance issues.

- Documentation Review: Engage in thorough reviews of documentation related to operations and maintenance, focusing on the outlined components and their performance as detailed in the PDD. This not only ensures transparency but also facilitates continuous improvement in line with evolving standards and best practices.

- Feedback Mechanisms: Implement feedback mechanisms to encourage stakeholders, including operational staff, to report any anomalies, concerns, or opportunities for enhancement. A responsive feedback system fosters a culture of continuous improvement and ensures that corrective measures are promptly taken.

- Integration with Maintenance Plans: Integrate monitoring activities seamlessly with maintenance plans, aligning the assessment of component performance with scheduled maintenance events. This synergy enhances the efficiency of both monitoring and maintenance efforts, contributing to the overall success of the project.

Improvements

Project Proponents are encouraged to integrate the following elements into their approach:

- Performance Metrics and Analysis: Develop and implement key performance indicators (KPIs) to quantitatively measure the efficiency and effectiveness of STEM components during both operational and maintenance phases. Regularly analyse these metrics to identify areas for enhancement.

- Feedback Integration: Establish a systematic process for incorporating feedback from stakeholders, operational staff, and relevant authorities. This feedback loop serves as a valuable source of insights for identifying improvement opportunities and refining existing processes.

- Benchmarking Against Industry Standards: Continuously benchmark project operations and maintenance against industry standards and best practices. This comparative analysis allows for the identification of areas where the project can align more closely with or surpass established benchmarks.

- Root Cause Analysis: In the event of deviations or challenges, conduct thorough root cause analyses to pinpoint the underlying issues. This analytical approach aids in addressing the source of problems and implementing corrective actions that prevent recurrence.

- Regular Review of Regulatory Changes: Stay vigilant to changes in regulatory requirements, legal frameworks, and industry standards. Regularly update project protocols and procedures to ensure ongoing compliance and resilience to evolving regulatory landscapes.

- Training and Skill Development: Invest in continuous training and skill development for project personnel involved in operations and maintenance. A knowledgeable and well-trained team is better equipped to adapt to changes, troubleshoot issues, and contribute to the overall success of the project.

- Documentation Refinement: Periodically review and refine documentation, including the Project Design Document (PDD), to reflect any modifications, improvements, or lessons learned during the course of operations. Clear and updated documentation is essential for transparency and knowledge transfer.

- Risk Management: Strengthen the risk management processes by identifying new emerging risks for the project and implement proactive measure to mitigate them.

By incorporating these elements into the project's framework, Project Proponents can foster a dynamic environment that embraces change and continual enhancement. This commitment to continuous improvement not only strengthens the project's resilience but also positions it as a model of excellence within the realm of STEM initiatives.