



“Gheorghe Asachi” Technical University of Iasi, Romania



AN AUDIT APPROACH TO ASSESS AND IMPROVE THE QUALITY MANAGEMENT SYSTEMS OF ENVIRONMENTAL LABORATORIES

Bruna Maria Gerônimo^{1*}, Cláudia Telles Benatti¹, Francielle Cristina Fenerich², Sandro Rogério Lautenschlager¹

¹*State University of Maringá, Technology Centre, Department of Civil Engineering, n° 5790 Colombo Avenue, Maringá, PR 87020-900, Brazil*

²*State University of Maringá, Technology Centre, Department of Production Engineering, n° 5790 Colombo Avenue, Maringá, PR 87020-900, Brazil*

Abstract

Environmental laboratories could use a quality management system (QMS) to organize their management activities in order to promote the standardization and reliability of the results generated. This research aimed to construct and apply a diagnostic model to identify the implementation of the best quality management practices based on the ISO 17025 standard in an environmental laboratory at the State University of Maringá, Brazil. The implementation of management practices was conducted over a period of ten months and two internal audits were performed using the developed model. The results of this study showed that the laboratory initially had 22.7% of compliance with the standard requirements and, after the corrective actions implemented, the system achieved 76.0% of compliance. Therefore, the practices adopted were important to solve problems encountered and to elaborate proposals for improvement actions for the consolidation of a QMS. The development of this work emphasizes the importance of organizational culture and employee training for the evolution of the QMS.

Keywords: environmental analysis, good laboratory practices, ISO 17025, test laboratory

Received: June, 2019; Revised final: December, 2019; Accepted: February, 2020; Published in final edited form: June, 2020

* Author to whom all correspondence should be addressed: e-mail: brunamgeronimo@hotmail.com; Phone: +55 44 99984-9387