

Enhancing Environmental Efficiency in Industrial Facilities through a Multi-Dimensional ISO 14001- Based Methodology

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Abstract

This study proposes a multi-dimensional methodology to improve environmental performance in industrial facilities according to ISO 14001 principles (1). Data collection, process evaluation, performance monitoring, and continuous improvement are the four primary components of the methodology. Together, these dimensions create a clear framework that assists industrial facilities in becoming more sustainable and compliant with environmental regulations and national sustainability goals (5). A field visit to a water treatment plant was conducted prior to implementing the proposed methodology and was utilized as a case study based on the recorded operational observations. During the visit, turbidity, total dissolved solids (TDS), and chlorine levels were measured and analyzed. Based on the proposed methodology, which aims to translate ISO 14001 standards into practical actions and provide a clear implementation plan for industrial facilities, the expected findings indicate that adopting such an approach would reduce pollution, enhance resource efficiency, and ultimately improve national Environmental Performance Index (EPI) outcomes (6).

Keywords

Environmental, Industrial Facilities, Multi-Dimensional, Methodology