

# Study on ISO 14001 Continuous Improving Strategies of Wastewater Treatment Plant in Industrial Parks.

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## ABSTRACT

Environmental management system (EMS), such as ISO 14001, has being an important environmental protection strategy worldwide. However, some organizations can not obtain real effectiveness and expressing consolidated environmental performances after conducting EMS. The environmental performance evaluation (EPE) standard - ISO 14031 can provide useful tools for organization to evaluate set performance targets and demonstrate their achievements, although the EPE standard is not intended to be as a certification specification by a third party. The purpose of this research is to establish an integrating indicator system including the parts of practical operation, maintain management, ordinary administration, and water quality analysis for wastewater treatment plants (WTPs) to evaluate their current status of environmental performance levels. The indicator system and the weighting factor of each indicator in the system are built up based on the results of the Delphi Method and ordinary questionnaires to experts. Then, the environmental performance scores of the 10 targeted WTPs were evaluated based on the results of questionnaires to managers of WTPs and analyzed by mean of the Important Performance Analysis (IPA). Some significant environmental aspects were found via the IPA work and possible suggestions for continuous improvement were proposed for references to WTPs. Based on the results of research, there are 23 items which mean the highest importance and the lowest effectiveness for the wastewater treatment plants, including setting up the intact degree of the operate parameter (%), the degree of raising the handling function (%), integrality and validity planned in wastewater check (%), the annual execution working rate (%), and the number of the sewage pipeline maintain (per/month), etc., were found out and should be placed in the top priority for the future continuous improvement and educational training. The research has raised the methods and measures on the relative environmental management issues. It can be referred by other domestic WTPs.

Keywords : wastewater treatment plant, Delphi Method, Environmental Performance Evaluation (EPE), Important Performance Analysis (IPA), continuous improving strategies

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