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## **FROM THE APPLICATION OF WATER SAFETY PLAN TO THE ACHIEVEMENT OF THE ISO 22000:2005 STANDARD: A CASE STUDY**

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### **Abstract**

The Water Safety Plan (WSP) model provides a completely new, cross-cutting and multidisciplinary approach for the risk assessment of drinking water pollution. The concept of “control” of the drinking water supply system (DWSS) is replaced by the concept of “under control”, in order to protect human health. The key factor of the WSP approach is the identification and mitigation or, if possible, the elimination of all factors that may cause a chemical, physical, microbial and radiological risk for drinking water. Due to its characteristics, the WSP can be perfectly integrated with the Hazard Analysis Critical Control Points (HACCP) system, a food safety management system which has the same approach of the WSP for the control of CCPs in food and drink production. Based on the Codex Alimentarius indications, 7 main principles have to be followed in order to establish a HACCP plan. These 7 principles are resumed in the International Organization for Standardization (ISO) 22000:2005 management system. The aim of this study is to evaluate how the WSP implemented for the DWSS of Mortara, Italy, was integrated with the HACCP system, in order to achieve the ISO 22000:2005 standard. The novelty of this work is that this is one of the first nationwide application of the ISO 22000:2005 standard on the whole DWSS stages, from catchment to consumer. In this way, all the DWSS criticalities have been detected. Moreover, the drinking water quality control system has been improved so much to consider water by rights a food.

**Key words:** drinking water, Hazard Analysis Critical Control Points, ISO 22000:2005, Water Safety Plan

*Received: March, 2018; Revised final: June, 2018; Accepted: September, 2018; Published in final edited form: October 2018*

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