WATER SAFETY PLANS FOR BUILDINGS AND INDUSTRIES

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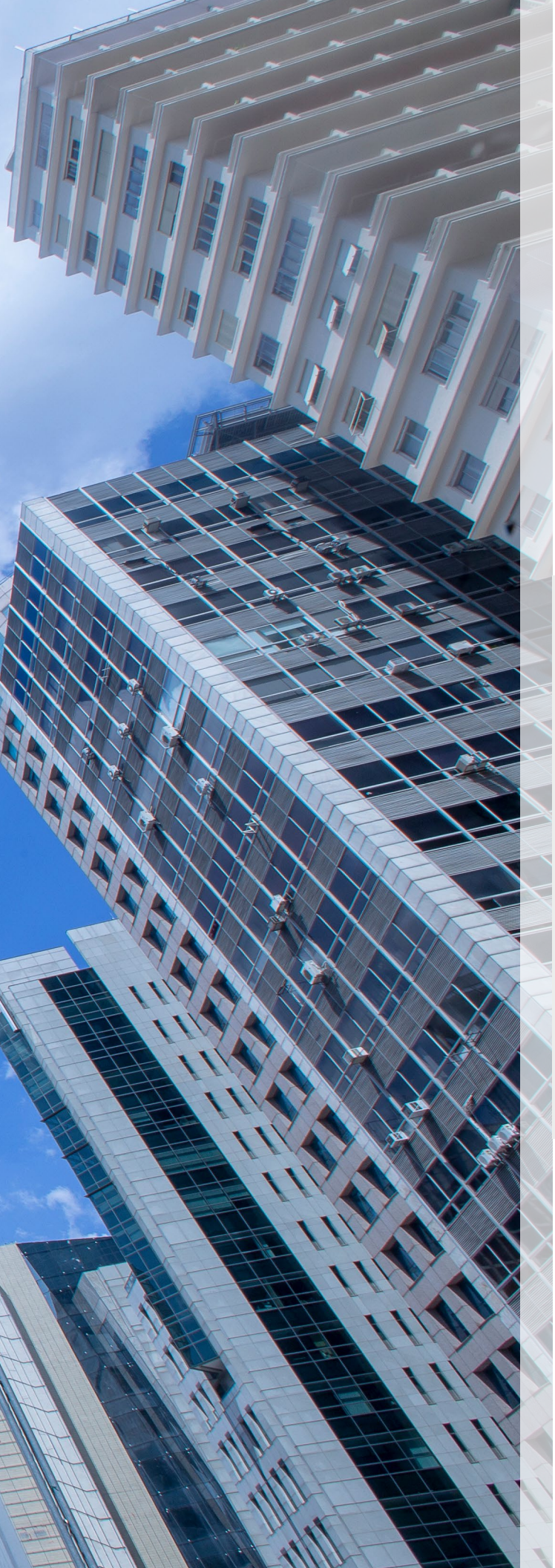
Water is essential for life on the planet. Besides being necessary for our vital functions, it is necessary for various uses such as ingestion, personal and environmental hygiene, and processes such as heat transfer, irrigation, food processing and recreation.

However, water can also pose risk to humans by ingestion, inhalation, or skin contact. These biological, chemical or physical risks may exist regardless of water uses.

The risks to human health can be from many different building water systems which, during their operation, produce aerosols, and can infect people by inhalation of *Legionella* bacteria-contaminated water droplets.

Benefits of a water safety plan:

- Identifies relevant hazardous conditions
- Implements preventative measures
- Minimizes the health risks associated with ingestion, inhalation, and skin contact with water
- Utilizes a risk management improvement plan
- Maintains compliance with current internal and local legislation
- Provides return on investment (ROI) for control strategies



Nowadays, sustainability goals like water reuse, combined with increasingly complex architecture and facility structure, can make managing building water systems challenging (e.g. hospitals, shopping malls, hotels, condominiums, data centers, industries, etc.).

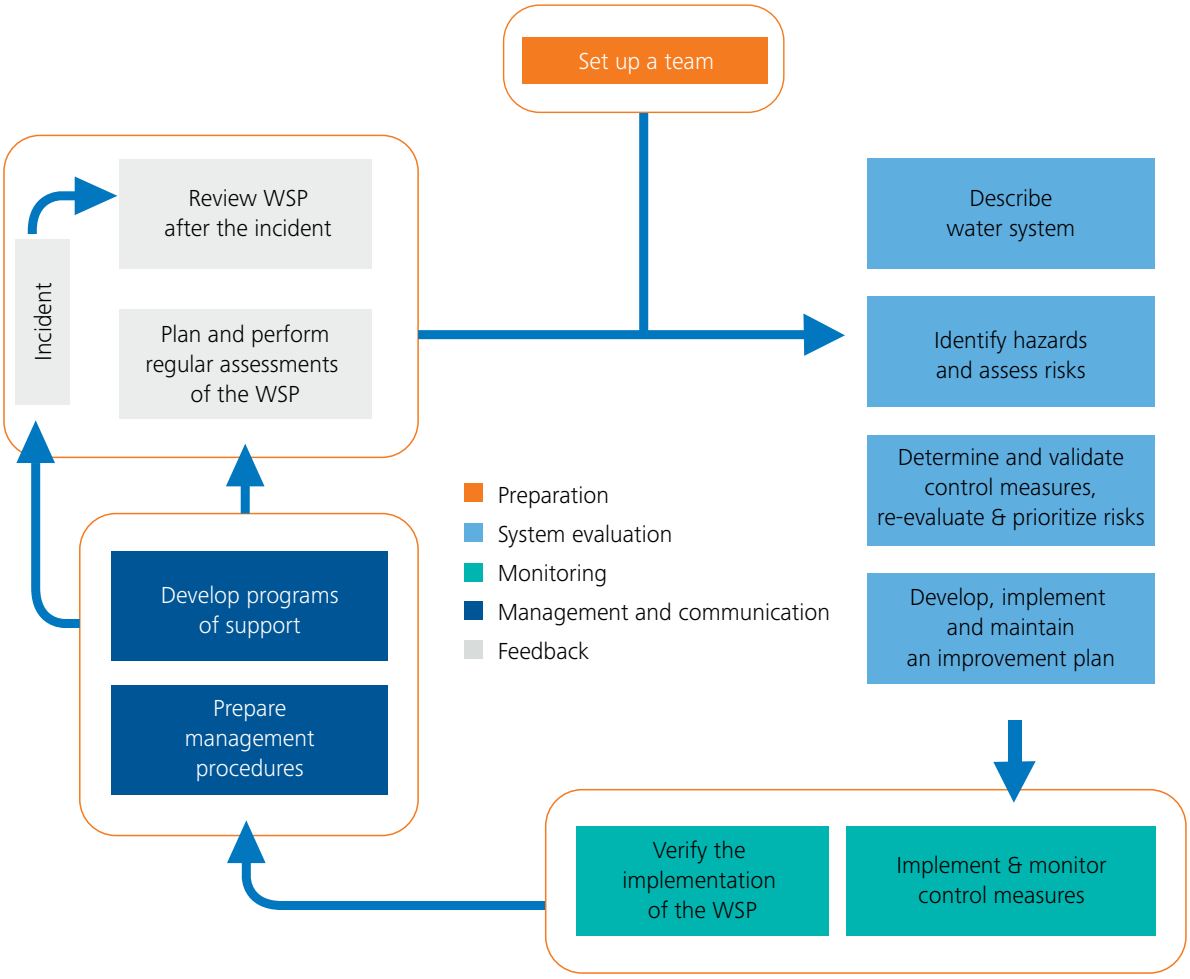
The World Health Organization (WHO) created the concept of the Water Safety Plan (WSP) which can help achieve water quality and conservation goals. The WSP establishes a water safety culture for a facility which includes routine measures for managing water systems. On the other hand, laboratory reports are costly and, when the results are issued, water has already been consumed.

WATER SAFETY PLAN GUIDE

Minimize
sources of punctual and diffuse contamination

Eliminate
contamination during the treatment process

Prevent
a (re)contamination of water during storage, distribution and consumption

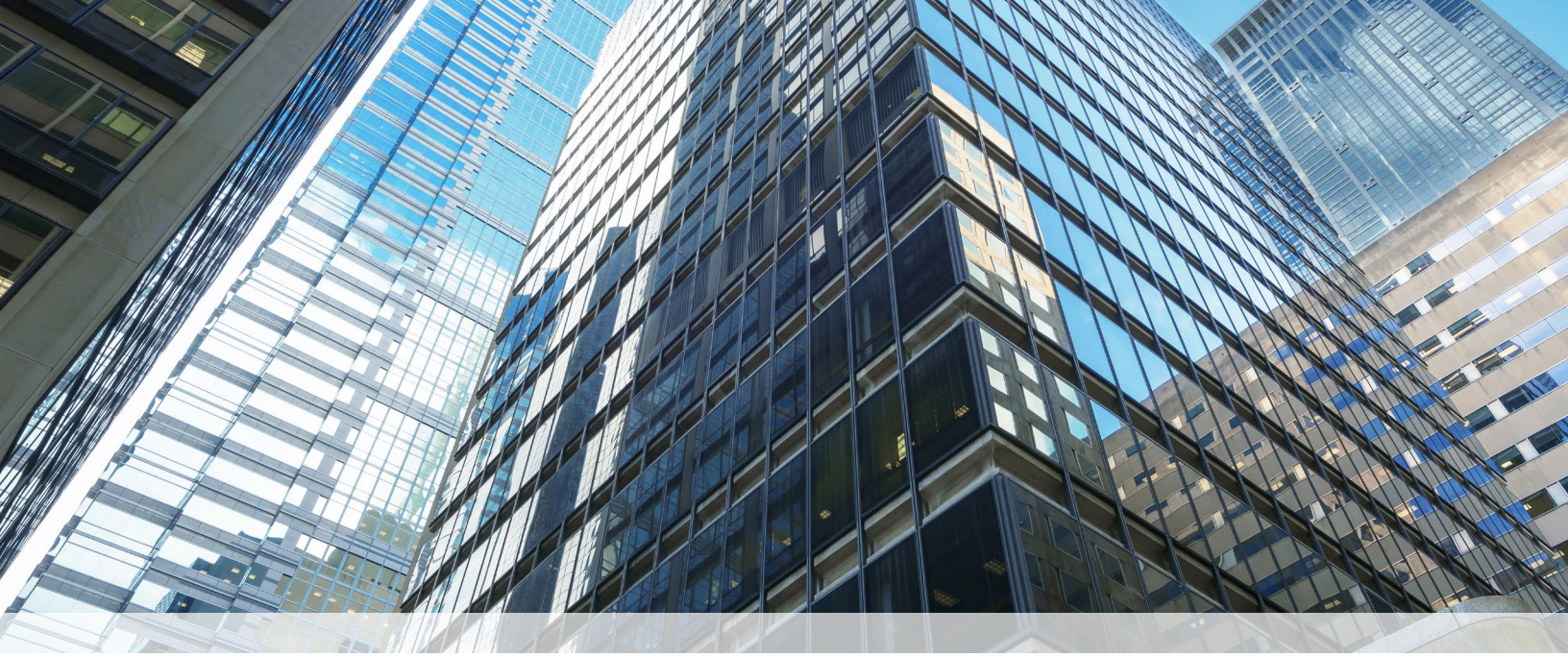


SAFER WATER

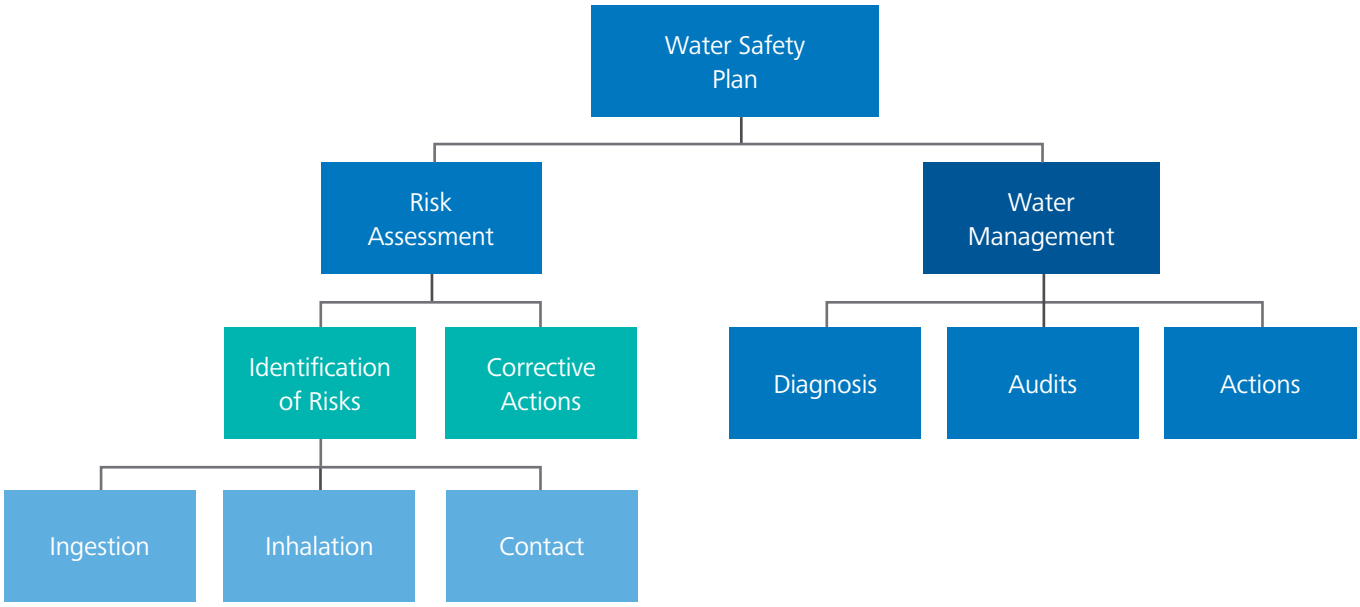
A safer water system (drinking water, cooling water, process water, effluent water, reuse, etc.) is a system in which facilities management not only knows its dangers and vulnerabilities, but has the ability to act and correct deviations in a timely manner without unsafe water consumption.

Every water system in a building or industry is evaluated (e.g. source, treatment, disinfection, storage, distribution and consumption points) and risks are mapped into three categories (physical, chemical and biological) and four aspects (ingestion, intake, contact and shortage). An action plan is suggested so employees, customers, visitors, and the surrounding community have a safer environment.

Our risk assessment uses the HACCP method (Hazard Analysis and Critical Control Points) and is based on the worldwide technical standards for water risk management such as World Health Organization (WHO/UN), CDC/US, OSHA/US, HSE/UK, EHEDG, CTI, IWA and NSF International standards for drinking water.



WATER SAFETY PLAN ELEMENTS



A water safety plan for buildings and industries developed by NSF meets and complements the quality control processes of the food and beverage industry with regard to the internal quality assurance processes on water input (food safety).

> *The most effective way of systematically ensuring the safety of a drinking water supply system is an integrated risk assessment and management encompassing all stages of water supply, from collection to the consumer.*
>
> WHO Water Quality Directive, 3rd edition, 2004

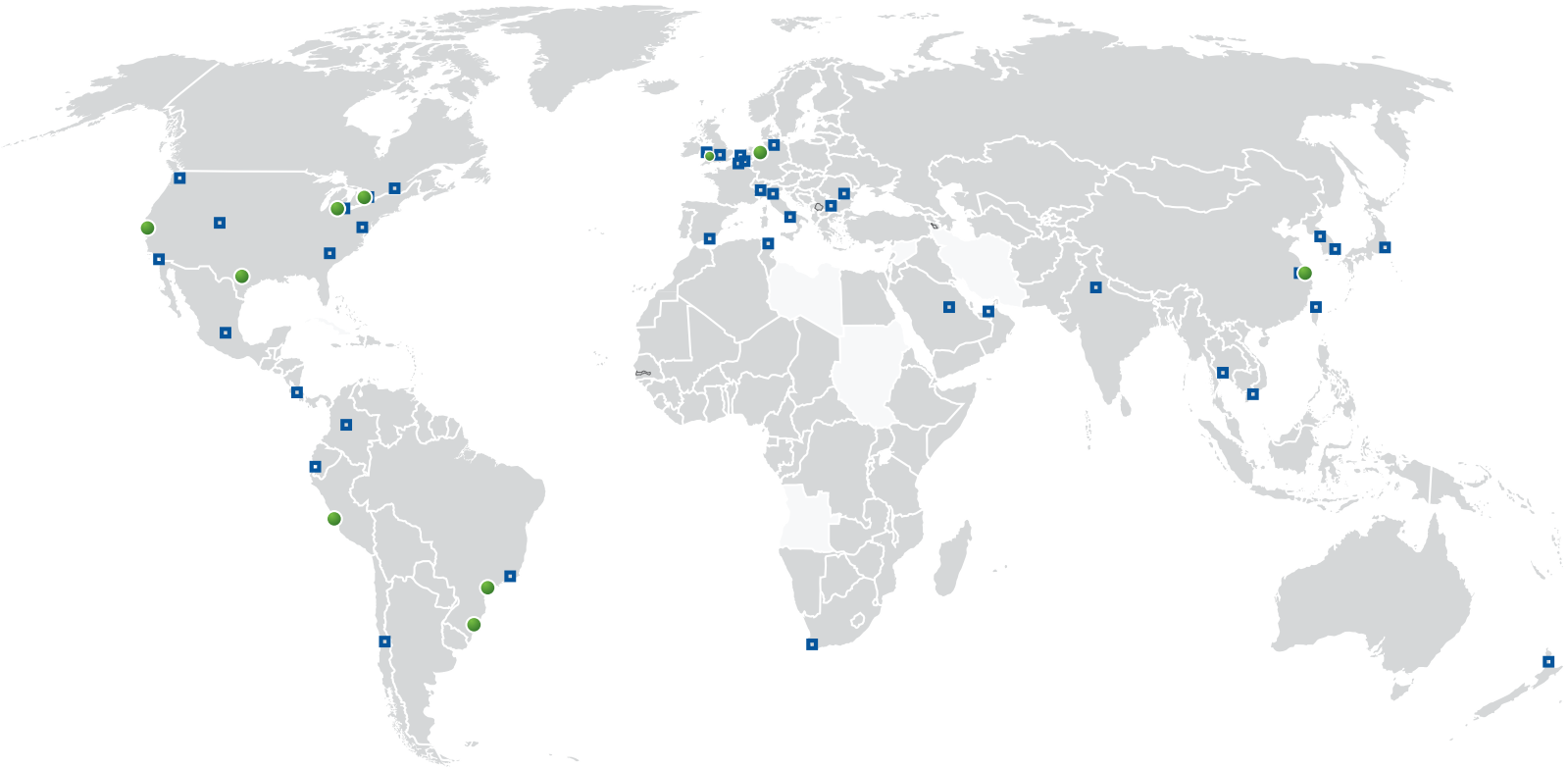
COMPREHENSIVE PROCESS

Every building and industry needs a water safety plan, such as:

- Hospitals and health centers
- Clinical laboratories
- Nursing homes
- Schools and universities
- Corporate buildings
- Residential condominiums
- Hotels & resorts
- Spas
- Shopping malls
- Call centers
- Data processing centers
- Research centers
- Ports and airports
- Food & beverage industries
- Pharmaceutical industry
- Steel industry
- Petrochemical industry
- Chemical industry
- Thermoelectric and nuclear power plants
- Oil rigs
- Ships, boats and cruises

Types of water systems that are assessed:

- Drinking water systems
- Hot and cold water systems
- Cooling systems
- Pools & spas
- Decorative fountains
- Irrigation systems
- Industrial systems
- Reuse systems
- Rainwater systems
- Medical devices
- Any other water system with foreseeable risks



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NSF INTERNATIONAL
E water@nsf.org
www.buildingwaterhealth.org

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