



Seven Steps to introduce a Aircraft Water Safety Plan (WSP)



WHO guidelines for a Water Safety Plan



The best way to ensure water is hygienically and safe is to introduce a Water Safety Plan. The WHO provides in its Guide to Hygiene and Sanitation in Aviation⁽¹⁾ a detailed advise how to set-up a Water Safety Plan (WSP).

Here is a summary of the main points how to set-up a WSP

(1) <https://www.ncbi.nlm.nih.gov/books/NBK310709/>

Step 1: Team up!

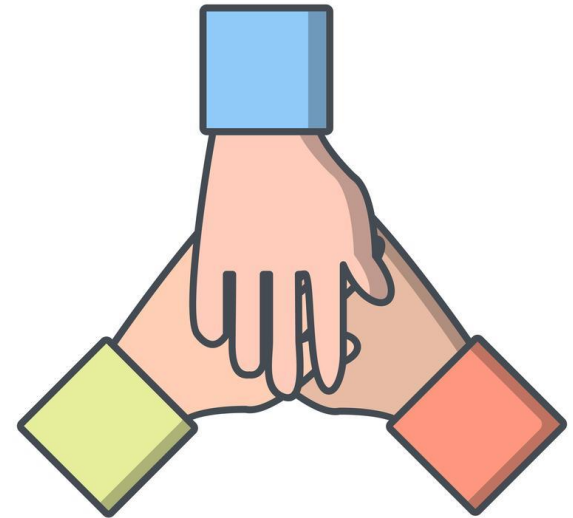
Set-up the Water Safety Plan team

A WSP can not be set-up and executed by one person alone. Experiences from other industries have proven that it needs a group of people with different functions to be successful. Typically you need individuals from these three functional groups:

- Technicians (ATA 38 engineers)
- Health and safety management
- Quality management

In order to make sure the WSP is rolled out and executed company wide a high level manager should be involved and take responsibility.

Remark: If you are able to add the airports water supply into your WSP you need to include the respective staff from the local water supplier in your team.



Step 2: How is the water system set-up and used

Describe the water supply system and its application

The actual work on a WSP starts with a system description. Here you define the systems boundaries, the actual set-up and the application where water is used. On order to get a good overview it helps to divide the drinking water system in three segments:

1. Source or generation of water, e.g. Transfer from water tank vehicle to aircraft
2. Drinking water system: water installation inside the aircraft
3. Application: Points of use and types of application inside the aircraft.



Step 3: Where are your hazards and risks

Perform hazard identification and risk assessment

List and describe what kind of hazards may occur in your water systems and segments. Think of all possible external influences and things to go wrong.

Then perform a risk assessment: Define likelihood of the hazard and correlate to the impact on passenger and staff health.

You may use a risk assessment matrix⁽¹⁾ to visualize your findings.

Include hazards, risk, risk assessment and the following chapters of hazard mastering in a spreadsheet



(1) Example for a risk matrix: <https://www.microtool.de/en/knowledge-base/what-is-a-risk-matrix/>

Step 4: Plan your measures for safe water

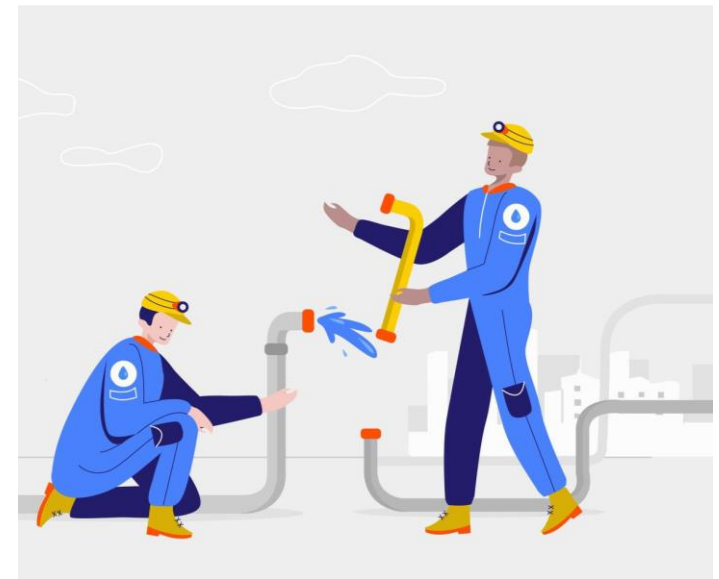
Describe how risks can be mastered

For each of the identified hazards define and validate control measures – the means by which risks are controlled by which concrete measure. Define your measures as methods, procedures and technology.

Write operational procedures and Q&M procedures. Q&M procedures for the drinking water system can be as well used to follow US EPA Aircraft drinking water guidelines (ADWR)

Write an improvement plan to summarize your action and to show their impact.

Re-asses risk of the implemented measures are not fully effective.



Step 5: How are you doing?

Monitor your status

Define operational monitoring of control measures – what limits define acceptable performance and how these are monitored. Typically water samples are taken and analyzed.

Establish and write down the respective procedures to verify the success of your hazard reduction measures. Record all obtained data and store away for later retrieval

Look for local rules: E.g. *E.coli* sampling plans for the US EPA rule or additional heterotrophic plate count data which are needed in other countries.

Discriminate between official and orientating sample testing. Use only accredited laboratories for official test sampling



Step 6: What to do if things go wrong?

Describe how to handle incidents

Even though you are best prepared things can go wrong. So you need a plan how to handle incidents. Write these action down in management procedures. Include health authorities in the development of the procedures so they are informed what will happen in case of an incident

The procedures might include

- Warnings and closing actions
- Corrective actions and re-evaluation
- Information pathways to staff and local authorities

Check these measures with the requiems from local health authorities, e.g. US EPA ADWR



Step 7: WSP support and re-assessment

WSP support program

Set up a WSP support program. The program might include training courses, hygienic practices, standard operating procedures, audits as well as collaborations in research and development.

Become best in class for water safety.

WSP re-assessment

Very important is a regular and scheduled assessment of the existing WSP. Infrastructure at the airport might change as well as aircraft on-board technology. Updated requirements on water safety might rise the need for changes in the WSP.

Establish a standard procedure for the re-assessment.



Thank you for your attention

About

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