

Development of an Aircraft Drinking Water Rule (ADWR)

Overview Briefing
Drinking Water Committee
Science Advisory Board

November 13, 2007





Statutory Authority

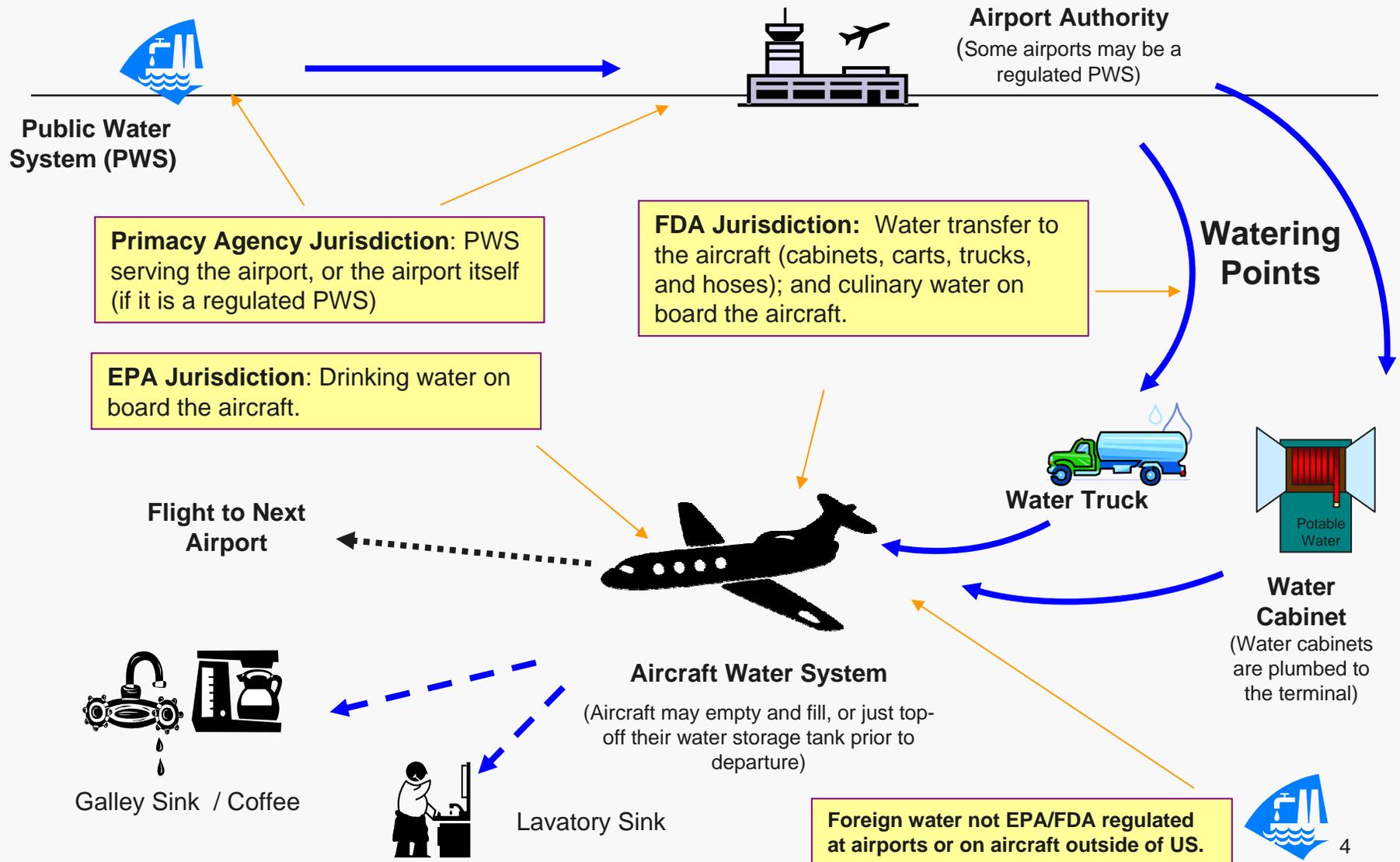
- ➔ Under the Safe Drinking Water Act (SDWA), public water systems (PWSs) onboard aircraft and other “Interstate Carrier Conveyances” (ICCs) such as trains, buses, and water vessels, are under EPA jurisdiction
- ➔ PWS – ... regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year



ICC Program Responsibilities

- The current ICC Program is jointly administered by EPA and the Food and Drug Administration (FDA) under 1980 Memorandum of Understanding:
 - Source water (domestic): *EPA / States*
 - Source water (foreign): *no U.S. jurisdiction*
 - Watering point: *FDA*
 - Onboard: *drinking water (EPA) / culinary water (FDA)*

Aircraft Potable Water Supply and Transfer Chain





Existing Regulations

[National Primary Drinking Water Regulations]

- Generally, for transient non-community water systems using surface water and serving 1,000 persons or fewer (e.g., rest stops, campgrounds), these rules require:
 - 1 total coliform sample/month
 - 1 nitrate sample/year
 - 1 nitrite sample/3 years
 - 1 sanitary survey/5 years
 - 1 disinfectant residual sample/month
 - Surface water treatment requirements, if not a consecutive system

- These requirements were established in the late 1980's with stationary public water systems in mind and did not consider the operational characteristics and constraints of aircraft water systems



Chronology

- In 1979 (revised 1986), EPA published guidance allowing airlines to substitute an EPA-approved program of quarterly disinfection in lieu of the monitoring required by the regulations; however,
- Staff from EPA's Office of General Counsel subsequently determined that this guidance does not have a basis in the regulations
- EPA suspended the use of this guidance in September 2003



Chronology (cont.)

- In early 2002, EPA established a national ICC workgroup to evaluate the ICC program
 - The workgroup found that all aircraft PWSs were out of compliance
- November 2002, Wall Street Journal article questioned the safety of airline drinking water
 - Several airlines formally disclosed their non-compliance
 - Air carriers complained that it was not feasible to comply with the required monitoring
 - EPA began working with the airline associations



Chronology (cont.)

- In Fall 2003, Air Transport Association sampled 265 aircraft from 8 of its members
 - 2.7% of aircraft tested positive for total coliform
 - 41% did not have a detectable disinfectant residual
- In 2004, EPA sampled 327 U.S. flag and foreign flag aircraft
 - 15% of aircraft tested positive for total coliform (2 samples were *E. coli* positive)
 - 21% of aircraft tested did not have a detectable disinfectant residual



Chronology (cont.)

- In November 2004, EPA announced the development of new regulations that will ensure safe drinking water for airline passengers while reflecting the unique characteristics of aircraft
- In the interim, EPA placed 46 air carriers under administrative orders on consent (AOCs)
 - AOCs will remain in effect until aircraft drinking water regulations are final
- In 2006, Health Canada sampled 370 Canadian flag aircraft using a protocol similar to EPA's
 - Total coliform positive sample rate similar to EPA's (2 samples were *E. coli* positive)



ADWR Purpose

- ✈ To ensure that safe and reliable drinking water is provided to aircraft passengers and crew
- ✈ This entails providing air carriers with a feasible way to comply with the Safe Drinking Water Act (SDWA) since existing regulations were designed for traditional, stationary water systems



Collaborative Rulemaking Process

- April 2005: EPA retained an independent 3rd party, skilled in alternative dispute resolution, to help facilitate the stakeholder collaboration process
- June 2005: Public information meeting to kickoff development of the ADWR
- January 2006: Two-day initial rule scoping workshop
- March 2007: Two-day rule development workshop
- Additional one-on-one briefings as requested: RAA, NACA, ATA, and AFA.



Ensuring the Safety of Drinking Water from Aircraft Water Systems in the U.S.

- The proposed rule was developed using a Water Safety Plan approach that draws on principles from the:
 - Hazard Analysis and Critical Control Points Approach
 - Assess the risks associated with each step in the water supply and transfer chain
 - Manage the risks associated with each step
 - Multiple-Barrier Approach
 - More than one barrier to prevent the contamination of drinking water from source to consumer



ADWR Applicability and Scope

- ✈ Aircraft PWSs that board only finished water for human consumption
- ✈ Aircraft PWSs within U.S. jurisdiction
 - ✈ International guidelines under development by the World Health Organization in cooperation with Agencies such as: the International Civil Aviation Organization, International Air Transport Association, Health Canada, FDA, and EPA
- ✈ Aircraft onboard water system
- ✈ Universe of 63 air carriers and >7,000 aircraft PWSs



Issues Addressed by the ADWR

- ✈ Aircraft operational characteristics and constraints:
 - ✈ Board water from many different sources, often many times a day
 - ✈ Maintain rigorous flight schedules and tight security
 - ✈ Need for flexibility
 - ✈ Evolve with technology



Status of Rulemaking Process

- Transmittal to OMB anticipated in November 2007
- After resolving any OMB concerns, the proposed ADWR is scheduled to be signed and published in the *Federal Register* for public comment Jan. 2008
- On-going collection and analysis of drinking water data submitted by airlines under the AOCs