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

**Public Water System (PWS)**

**Primacy Agency Jurisdiction:** PWS serving the airport, or the airport itself (if it is a regulated PWS)

**EPA Jurisdiction:** Drinking water on board the aircraft.

**FDA Jurisdiction:** Water transfer to the aircraft (cabinets, carts, trucks, and hoses); and culinary water on board the aircraft.

**Airplane**

(Aircraft may empty and fill, or just top-off their water storage tank prior to departure)

**Airport Authority**

(Some airports may be a regulated PWS)

**Watering Points**

- **Water Truck**
- **Water Cabinet** (Water cabinets are plumbed to the terminal)

**Galley Sink / Coffee**

**Lavatory Sink**

**Foreign water not EPA/FDA regulated at airports or on aircraft outside of US.**
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.
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.
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