

# Violations of the Rule



## Violations of the Rule: Summary

An air carrier is in violation of the ADWR when it:

- Fails to perform any requirements in 40CFR §141.803 or §141.804
- Has an *E. coli*-positive sample
- Fails to provide notification to passengers or crew
- Fails to comply with reporting or recordkeeping requirements
- Fails to conduct a self inspection or address a deficiency
- Fails to develop a coliform sampling plan or fails to have and follow an O&M plan

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There are different circumstances that would place an air carrier in violation of the ADWR. They're listed in 40 CFR §141.810.

In general, an air carrier would be in violation of ADWR for:

- failing to perform requirements in 141.803 and 804, which cover Coliform Sampling and the aircraft water system O&M plan,
- having an *E. coli*-positive sample,
- failure to provide public notification, or
- failing to comply with reporting and recordkeeping requirements.

Additionally, an air carrier would be in violation if it fails to conduct a self inspection in the 5 year time period required, or if it fails to address any deficiencies discovered at any time within the prescribed timeframes.

An air carrier would also be in violation if it failed to develop a sampling plan, or fails to have and follow an O&M plan, which also must be included in the air carrier's FAA-accepted program.

## Analytical Methods Violations

- Fails to perform any requirements in 40CFR §141.803 or §141.804
  - Analytical methodology
    - Sample volume of 100 mL
    - Analyze samples within 30 hrs of collection
    - Use only analytical methods allowed under sub-section C of the NPDWRs
    - Use only certified labs
- Corrective Action:
  - There are no Rule citations specifying actions in response to these violation.
  - Actions will be determined by EPA.
    - One of the actions could include re-collecting the sample.

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Violations under 141.803 and 141.804, include:

-- failure to collect 100 mL per sample volume

-- failure to collect the required number of samples

-- failure to analyze the sample within 30 hrs. of collection. (The certified lab should reject samples that are received outside of 30 hrs.)

-- failure to use EPA approved analytical methodology (under sub-section C of the NPDWRs) for Drinking Water analysis. (This should not be a problem if it is a certified laboratory.)

-- failure to use a certified laboratory. A certified laboratory is a laboratory that has been certified by the State or EPA. "State" refers to a State or Tribe that has primacy (or regulatory authority) for PWSs under section 1413 of SDWA.

There are no ADWR citations for specifying actions in response to these violations. EPA has developed a Compliance & Enforcement Strategy that will include actions that can be applied consistently among the Regions. These will be meant as a guide to Regions, but in no way restricts them from using their own enforcement discretion.

The following slides present very specific corrective actions for failing to perform routine requirements or obtaining coliform-positive sample results. To be clear, EPA determined that these actions are appropriate because the ADWR relies on best management practices in lieu of the monthly coliform sampling as required of stationary PWSs by the Total Coliform Rule. The ADWR best management practices (e.g., D&F, following O&M procedures) are part of the minimum requirements that ensure safe and reliable drinking water. If an air carrier fails to perform these minimum requirements, then either a known problem has not been promptly addressed or the quality of the aircraft water is questionable.

## Routine Monitoring Violations

- Routine Monitoring
  - Sampling frequency must match that of the manufacturers recommendation (if specified)
  - If not specified, must choose from table
  - Must match the frequency identified in the air carrier's O&M plan
  - Must sample from galley and lavatory
    - *Exception:* Aircraft PWS with a removable or portable tank that is drained every day of passenger service, and has only one tap, may collect only *one* 100mL sample
  - Must analyze TC+ sample for *E. coli*
  - Must wait (at least) 72 hrs after routine disinfection and flushing before collecting routine sample

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In general terms, routine monitoring must adhere to certain required criteria. (READ THROUGH LIST ON THE SLIDE)

\*\*Sampling frequency must match that of the manufacturer's recommendation (if specified). If not specified, the carrier must choose from the options provided by the ADWR

\*\*Must match the frequency identified in the O&M plan for the specific aircraft.

\*\*Must collect a sample from a tap in a galley and one in a lavatory, if available  
*Exception:* Aircraft PWS with a removable or portable tank that is drained every day of passenger service, and has only one tap, may collect only *one* 100 mL sample

\*\*Must analyze TC+ sample for *E. coli* (this should automatically be done by the certified laboratory)

\*\*Must wait at least 72 hrs after routine disinfection and flushing before collecting routine samples

## Routine Sample Collection Violations

### Failure to collect routine coliform samples

40 CFR 141.810(a)

#### Corrective Action:

- 1) Restrict public access to aircraft water system **within 72 hours**
- 2) Conduct disinfection and flushing.
- 3) Collect follow-up samples. Once samples are collected, aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.



*Note: Number 3 above is for **initial** corrective action D&F ONLY.*

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If an air carrier fails to perform routine monitoring, there are certain corrective actions they must take.

They must restrict access to water system within 72 hrs and conduct disinfection and flushing, they must collect follow up samples, and they must report the failure to EPA within 10 days of discovering the failure.

Please note number 3, which allows water to be served for human consumption, only applies after collection of an *initial* set of follow-up samples. If any subsequent follow-up samples are coliform-positive, water cannot be served to passengers and crew until a set of follow-up samples is TC-.

## Repeat and Follow-up Sample Violations

Failure to collect repeat or follow-up samples as a result of a total coliform-positive and *E. coli*-negative result 40 CFR 141.810(a)

○ Corrective Action:

- 1) Restrict public access to aircraft water system **within 72 hours**
- 2) Conduct disinfection and flushing.
- 3) Collect follow-up samples. Once samples are collected, aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.

*Note: Number 3 above is for initial corrective action ONLY.*

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An air carrier is in violation of the ADWR if it fails to collect repeat or follow-up samples in response to a TC+ and EC- sample result. Corrective actions for this situation are identical to those for failing to collect routine samples (which were presented in the previous slide).

These actions are:

- Restrict access to water within 72 hrs, and conduct D&F.
- Collect follow-up samples, and
- Report the failure to EPA within 10 calendar days of discovery of the failure.



## Follow-Up Sampling Following EC+ Violations

### Failure to collect follow-up samples as a result of an *E. coli*-positive result

40 CFR 141.810(a)



#### ○ Corrective Action:

- 1) Restrict public access to aircraft water system **within 24 hours**
- 2) Conduct disinfection and flushing prior to resumption of unrestricted public access to the aircraft water system, or **no later than 72 hours** if the aircraft water system cannot be shut off or flow of water prevented.
- 3) Collect follow-up samples. Follow-up samples results must be TC- before aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.

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Failing to collect follow-up samples for an EC+ result requires the following corrective actions:

The air carrier must restrict access to water within **24 hrs**, which includes physically disconnecting the water system or preventing the flow of water, and providing PN – then perform disinfection and flushing when able. If the water system cannot be physically disconnected or the flow of water prevented, then the disinfection and flushing must take place within 72 hrs.

After disinfection and flushing, the air carrier must collect a complete set of follow up samples. The results must be *E. coli* -negative before providing water for human consumption.

Until a complete set of total coliform-negative results are returned, all restrictions, including public notification, must remain in effect.

## Routine D&F Violations

### Failure to perform routine disinfection and flushing

40 CFR 141.810(a)

#### ○ Corrective Action:

- 1) Restrict public access to aircraft water system **within 72 hours**
- 2) Conduct disinfection and flushing.
- 3) Collect follow-up samples. Once samples are collected, aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.



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If an air carrier fails to perform routine disinfection and flushing, it is in violation of the ADWR. This routine schedule must match the schedule specified in the O&M plan, and must have the correct corresponding routine coliform sampling frequency.

*A question was posed during the February 2011 ADWR training session asking whether an air carrier could have an alternate schedule that was previously approved by FAA.*

*The answer from EPA is that an air carrier may use an FAA-approved procedure for D&F if it meets the following requirements:*

*\*\*May conduct D&F more frequently, but not less frequently than the manufacturer recommends*

*\*\*Air carrier must ensure the FAA-approved procedures would not result in damage to the aircraft water system*

The actions are the same as failing to conduct routine sampling, and failing to collect repeat or follow-up samples for TC+ and EC- results.

In brief, the corrective actions are to restrict public access within 72 hrs, conduct D&F, and collect follow-up samples. Once these samples are collected, water can again be provided for human consumption. The failure must then be reported to EPA within 10 calendar days.



## Corrective D&F Violations

### Failure to perform corrective disinfection and flushing

40 CFR 141.810(a)

#### ○ Corrective Action:

- 1) By failing to perform corrective disinfection and flushing, the air carrier also would subsequently fail to collect follow-up samples.
- 2) Complete the required responses for failing to collect follow-up samples for an *E. coli*-positive or a total coliform-positive and *E. coli*-negative routine or repeat sample, whichever is applicable.
- 3) Report the failure to EPA **within 10 calendar days** of discovery of the failure.

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An air carrier would also be in violation if it failed to perform *corrective* D&F. By failing to perform corrective D&F, the air carrier would subsequently fail to collect follow-up samples. If this occurs, the air carrier must report the failure to EPA within 10 calendar days of the failure. The air carrier must also follow through on the required responses for failing to collect follow-up samples.

## Restricting Public Access Violations

### Failure to Restrict Public Access

40 CFR 141.803(d)

- 3 main components

- 1) Physically disconnecting or shutting off the aircraft water system where feasible, or otherwise preventing the flow of water through the taps
- 2) Provide public notification to passengers and/or crew (situation dependent)
- 3) Provide alternatives to water from the aircraft water system (e.g. bottled water, sanitizing wipes, etc.)



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A violation for failing to restrict public access has three components. The first is failing to disconnect or shut-off the water where feasible, or otherwise restrict the flow to the taps. If the water system *is* disconnected, notification must be provided to the crew. If it is not disconnected, notification must be given to passengers and crew. Lastly, alternatives to the water system must be provided such as bottled water for coffee (if coffee is provided), and antiseptic hand gels or wipes and other feasible measures that reduce or eliminate the need to use the aircraft water system. Failing to follow any of these requirements is a violation.

## Restricting Public Access PN Violations

### **Failure to restrict public access to the aircraft water supply by not providing public notification [40 CFR 141.810(a)] :**

- to crew when water system is physically disconnected or flow of water prevented through the tap.
- to crew and passengers when water system is not physically disconnected or flow of water prevented through the tap.

#### • Corrective Action:

- 1) There are no Rule citations specifying actions in response to this violation.
- 2) Actions will be determined by EPA.



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An air carrier is in violation of the ADWR if it fails to restrict public access to the water system by *not* providing public notification where appropriate.

If the PWS is physically shut-off or the flow of water prevented, then PN is provided to crew only.

If the PWS is not physically shut-off or the flow of water prevented, then PN is provided to crew and passengers.

Since there are no explicit corrective actions described in the regulation for this violation, any actions will be determined by EPA.

## Restricting Public Access: Alternatives to Water Violations

### Failure to restrict public access by not providing alternatives to water or other measures 40 CFR 141.810(a)

- Corrective Action:
  - There are no Rule citations specifying actions in response to this violation.
  - Actions will be determined by EPA.



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If an air carrier does not provide alternatives to water ***in response to sample results or failure to perform other required activities***, then it is in violation of the ADWR.

The air carrier must take feasible measures to reduce or eliminate the need to use the aircraft water system. These measures could be in the form of providing bottled water for drinking and coffee preparation, and providing antiseptic hand gels or wipes.

## Boarding Water from Unsafe Watering Point Violations

### Failure to board water from a safe watering point (non-*E. coli*-positive event)

40 CFR 141.810(a)

#### Corrective Action:

- 1) Restrict public access to aircraft water system within 72 hours
- 2) Conduct disinfection and flushing.
- 3) Collect follow-up samples. Once samples are collected, aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.



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Failing to board water from a safe watering point, with a non-EC+ event, requires the air carrier to restrict public access to the water supply within 72 hours, conduct D&F, and collect follow-up samples. Once follow-up samples are collected, the air carrier can again provide un-restricted access of water to the public. The air carrier must then notify EPA of the violation within 10 days after discovery.



## Boarding Water from Unsafe Watering Point Violations, cont.

### Failure to board water from a safe watering point (*E. coli*-positive event)

40 CFR 141.810(a)



#### Corrective Action:

- 1) Restrict public access to aircraft water system **within 24 hours**
- 2) Conduct disinfection and flushing prior to resumption of unrestricted public access to the aircraft water system, or **no later than 72 hours** if the aircraft water system cannot be physically disconnected/shut off to the crew and passengers
- 3) Collect follow-up samples. Follow-up sample results must be total coliform-negative before aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.

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Failing to board water from a safe watering point with an EC+ event is also a violation. The corrective actions here require the air carrier to restrict public access within 24 hours. The air carrier must conduct D&F and collect follow-up samples when able. If the air carrier is unable to physically shut off the water system or prevent the flow of water to the passengers and crew, then D&F must be conducted within 72 hours.

They must then collect follow-up samples, which must have TC- results before providing water for human consumption.

The **failure** must be reported to EPA within 10 days of its discovery.

## *E. coli*-positive Sample Results Violations

Any *E. coli*-positive sample in any monitoring period *40 CFR 141.810(b)*

### ○ Corrective Action:

- 1) Restrict public access to aircraft water system **within 24 hours**
- 2) Conduct disinfection and flushing prior to resumption of unrestricted public access to the aircraft water system, or **no later than 72 hours** if the aircraft water system cannot be physically disconnected/shut off to the crew and passengers.
- 3) Collect follow-up samples. Follow-up sample results must be total coliform-negative before aircraft water can be provided for human consumption.
- 4) Report failure to EPA **within 10 calendar days** of discovery of the failure.

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Any EC+ sample result in any monitoring period is considered a violation of the ADWR.

If this occurs, the air carrier must restrict public access to the water system within 24 hours. Additionally, D&F must be conducted prior to providing unrestricted public access to the water system; this must occur within 72 hours if the water system cannot be physically shut off or the flow prevented through the taps. Follow-up samples must be collected, and the results must be TC- before water can be provided for human consumption.

The failure must then be reported within 10 calendar days of the discovery.

## Reporting and Recordkeeping Violations

### Failure to comply with the reporting and recordkeeping requirements

*40 CFR 141.810(d)*

- **Corrective Action:**
  - There are no Rule citations specifying actions in response to this violation.
  - Actions will be determined by EPA.

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Failure to comply with reporting and recordkeeping requirements is a violation of the ADWR. Since self-reporting is essential to EPA's ability to effectively manage and implement the ADWR, failure to report adversely affects compliance determinations and oversight of the program.

Recordkeeping is also very important to the program in that it provides EPA with the tools and information to properly gauge the effectiveness of the program.

Although corrective action is not specified in the regulation, the air carrier would need to update any missed reporting, generate the proper records for future reference, and perform any other action determined by EPA.

## Failure to Conduct Self-Inspection or Address Deficiency Violations

### Failure to conduct a self-inspection or address a deficiency in accordance with the O&M plan

40 CFR 141.810(e)

#### • Corrective Action:

- There are no Rule citations specifying actions in response to this violation.
- Actions will be determined by EPA.

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Self-inspections are a very important part of verifying that the water system in use is maintained in such a manner that provides integrity to the system and prevents the introduction of contaminants into the water.

When a deficiency is discovered, whether it is found during an inspection or day-to-day operations, it must be addressed. Failure to address any discovered deficiencies within 90 days of identification is also a violation of the ADWR.

In addition to deficiencies discovered during self-inspections, if a deficiency is found during a compliance audit, it also must be addressed within 90 days of identification.

## Failure to Develop Coliform Sampling Plan Violations

### Failure to develop a coliform sampling plan

*40 CFR 141.810(f)*

#### • Corrective Action:

- There are no Rule citations specifying actions in response to this violation.
- Actions will be determined by EPA.
  - One of the actions would include developing the plan.

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Failing to develop a coliform sampling plan is a violation of the ADWR. Although corrective action is not specified in the regulation, EPA would require the air carrier to complete the sampling plan and report its completion to EPA.



## Failure to Develop and Follow O&M Plan Violations

### Failure to develop and follow operations and maintenance plan

40 CFR 141.810(f)

#### ○ Corrective Action:

- There are no Rule citations specifying actions in response to this violation.
- Actions will be determined by EPA.
  - One of the actions would include developing the plan.

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If an air carrier fails to develop and follow an O&M plan, it would be in violation of the ADWR. Although there are no actions specified in the rule, EPA would require the air carrier to develop the plan.

#### **LAST THOUGHTS:**

It should also be understood that the violations reviewed in these slides do not represent a *complete* list of possible violations, and other violations could be determined by EPA.