UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 11 2006

ASSISTANT ADMINISTRATOR
FOR ENFORCEMENT AND
COMPLIANCE ASSURANCE

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mark Berner
Director of Corporate Safety
c/o Edward J Hollkamp, Jr.
Manager of Security & Regulatory Compliance
Comair, Inc.
Cincinnati/Northern Kentucky International Airport
77 Comair Blvd.
Erlanger, KY 41018

Dear Mr. Berner:

Please find enclosed the final and executed Administrative Order on Consent and Request For Information (Order) that resolves Comair, Inc.'s noncompliance with the Safe Drinking Water Act (Act) and the National Primary Drinking Water Regulations. We appreciate the high level of cooperation demonstrated by your airline throughout the process of developing and finalizing the terms of the Order.

As you know, in previous correspondence and throughout the negotiation process, EPA assured the airlines that it would address instances of noncompliance with the Act through the negotiated Order. In consideration of your willingness to address your noncompliance issues, EPA, in its enforcement discretion, agrees not to pursue additional enforcement action against Comair, Inc. for past violations of the Act addressed by this Order or for penalties for such violations, as long as Comair, Inc. is in compliance with all the terms of the Order. This exercise of EPA's enforcement discretion applies only to the period of time the Order is in effect.

Again, I want to commend you for your cooperation in this process and for recognizing the importance of protecting public health and meeting the requirements of the National Primary Drinking Water Regulations pursuant to the Safe Drinking Water Act.

Please contact Laurie Dubriel at (202) 564-4031, of my staff, if you have any additional questions.

Sincerely,

Granta Y. Nakayama

Granta Y. Nakayama

Enclosure

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

In the Matter of	§	Docket No. SDWA-04-2006-0764
	§	
COMAIR, INC.	§	Proceedings Under Section 1414(g) and
	§	1445(a) of
Mark Berner	§	
Director of Corporate Safety	§	
RESPONDENT	§	The Safe Drinking Water Act, 42 U.S.C.
	§	Section 300g-3(g) and 300j-4(a)
	§	
COMAIR, INC.	§	
BOONE COUNTY	§	ADMINISTRATIVE ORDER ON
	§	CONSENT AND REQUEST FOR
ERLANGER, KENTUCKY	§	INFORMATION

WHEREAS aircraft that qualify as public water systems are subject to the Safe Drinking Water Act and the National Primary Drinking Water Regulations; and WHEREAS in 1979 the United States Environmental Protection Agency (EPA) issued Water Supply Guidance 17 which was replaced by Water Supply Guidance 29 in 1986, both of which allowed certain owners or operators of carriers that conveyed passengers in interstate commerce to implement operation and maintenance programs in lieu of the monitoring required under the National Primary Drinking Water Regulations of the Safe Drinking Water Act if the program was approved by EPA; and WHEREAS carriers that conveyed passengers in interstate commerce, including airlines, relied upon Water Supply Guidances 17 and 29 to comply with the National Primary Drinking Water Regulations; and WHEREAS in September 2003 EPA suspended new approvals of operation and maintenance plans under Water Supply Guidance 29; and WHEREAS EPA is in the process of reviewing the National Primary Drinking Water Regulations to determine the extent to which any amendments are necessary to address the circumstances unique to aircraft drinking water systems; and WHEREAS Comair, Inc. (Comair) recognizes the importance of

protecting public health; Comair and EPA have agreed to enter into the following REQUEST FOR INFORMATION and ADMINISTRATIVE ORDER ON CONSENT which is intended to address Comair's alleged noncompliance with the Safe Drinking Water Act and National Primary Drinking Water Regulations via a phased monitoring program.

I. STATUTORY AUTHORITY

Enforcement authority over public water systems on carriers that convey passengers in interstate commerce is solely vested with the United States Environmental Protection Agency (EPA) under 40 CFR Section 142.3(b)(1). Under the authority vested in the Administrator of the EPA by Sections 1445(a) and 1414(g) of the Safe Drinking Water Act (the Act or SDWA), 42 U.S.C. Sections 300j-4(a) and 300g-3(g), the following FINDINGS are made and the following REQUESTS FOR INFORMATION and ADMINISTRATIVE ORDER ON CONSENT (ORDER) are issued. The Administrator of the U.S. EPA has delegated the authority to take these actions to the Assistant Administrator for the Office of Enforcement and Compliance Assurance who in turn has re-delegated this authority to the Division Director of the Water Enforcement Division.

II. INTRODUCTION

1. This ORDER is issued upon consent of Comair, Inc. (Respondent). The EPA alleges that Respondent has failed to fully comply with the Act, and the regulations promulgated pursuant thereto, in particular the monitoring, analytical, public notice, and reporting requirements at 40 CFR 141 subparts C, D, H, Q, and T.

2. Respondent agrees not to contest the EPA's jurisdiction or authority to enter into or enforce this ORDER. Respondent also agrees not to contest the validity of any terms and

conditions of this ORDER in any action to enforce, or in any action arising from this ORDER and specifically waives any such defenses.

3. The EPA's decision or actions in entering into and pursuant to this ORDER are not subject to judicial review prior to the United States's initiation of judicial action to compel Respondent's compliance with this ORDER or to assess civil penalties for non-compliance with this ORDER.

4. The scope of this ORDER is limited to Respondent's actions with respect to the aircraft in its operating fleet that are subject to this ORDER.

III. DEFINITIONS

5. A "watering point" means a facility where water is transferred from a water supply to the aircraft. These facilities may include water trucks, carts, cabinets, and hoses.

6. A "sample" means a volume of water collected from a cold water tap and/or spigot from the aircraft lavatory or galley. If the only sampling point in the galley is the coffee maker and/or hot water tap, a "sample" includes a volume of water from this location. Although the quality or result of the sample may be altered by collecting it from a coffee maker or hot water tap, EPA may consider these sample results in conjunction with the evaluation of the data collected in the first twelve months of monitoring.

7. A "repeat sample" in accordance with 40 CFR 141.21(b) means the collection of samples from onboard the aircraft after an initial total coliform positive sample result and prior to disinfection.

8. A "foreign water source" means a water supply located outside of the United States or its territories that is not within EPA's jurisdiction, which is used by Respondent as a source

of drinking water for the water tanks onboard the aircraft.

9. "Coliforms" means a group of closely related bacteria which are natural and common inhabitants of the soil and water and the digestive tract of humans and other warm-blooded animals.

10. "Disinfection" means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

11. "Water for human consumption" means water used for purposes identified under the NPDWRs and accompanying preamble and court decisions, which includes, but is not limited to, drinking, beverage preparation, bathing, showering, hand washing, cooking, dishwashing, and maintaining oral hygiene, but which excludes toilet use.

12. An "aircraft" means a carrier that transports passengers via air in interstate commerce that qualifies as a public water system under the Safe Drinking Water Act and the National Primary Drinking Water Regulations. Respondent is certified by the Federal Aviation Administration to carry passengers in interstate commerce under a certificate, exemption, or other authority issued by the U.S. Department of Transportation. This definition excludes aircraft that do not contain a drinking water system onboard, aircraft on which the drinking water system has been de-activated (*i.e.*, the water source is shut down, de-activation recorded in the aircraft flight log, and water service cannot be restored by the flight crew), and aircraft which use or provide only commercially sold bottled water subject to the Food and Drug Administration regulations as water for human consumption.

13. "Operating fleet" means aircraft operated under Respondent's Federal Aviation

Administration Operating Certificate that are used to transport at least 25 individuals daily in interstate commerce or are expected to provide such service for at least sixty (60) days within any twelve-month period. This definition shall include aircraft acquired during the effective life of this ORDER.

14. A "comprehensive representative monitoring plan" means a plan which includes monitoring every aircraft in the operating fleet. The design of the monitoring plan shall be intended, to the maximum extent possible, to reflect the various seasonal and/or climate conditions (including range in temperature) where water is boarded, various stages of the disinfection cycle, sources of water, and flight routes for each make and model of aircraft.

15. A "current monitoring program" means any regular monitoring of the water system onboard the aircraft or the watering points for total coliform, fecal coliform, *E. coli*, nitrate, nitrite, disinfectant residual, turbidity, or heterotrophic plate count that was implemented by Respondent prior to the effective date of this ORDER.

16. "Physically turning off the water" means any physical act to ensure water is unavailable from the drinking water tanks onboard the aircraft for human consumption.

17. All terms not defined herein shall have their ordinary meaning, unless such terms are defined in the SDWA or its implementing regulations, in which case the statute or regulatory definitions shall apply.

IV. FINDINGS

18. A "person" is an individual, corporation, company, association, partnership, State, municipality, or Federal agency (and includes officers, employees, and agents of any

corporation, company, association, State, municipality, or Federal agency) as defined in Section 1401(12) of the Act, 42 U.S.C. Section 300f-12.

19. Respondent is a corporation and is therefore a "person" as defined in Section 1401(12) of the SDWA, 42 U.S.C. Section 300f-12 and 40 CFR 141.2.

20. Respondent is a passenger airline company in the United States which as of April 1977 conveys passengers in interstate commerce with a fleet of 163 aircraft. Respondent transports more than 12 million passengers a year to 110 airports in 107 cities in 35 U.S. states and two foreign countries at an average rate of approximately 900 flights per day.

21. Respondent provides water on its aircraft to passengers and crew for human consumption.

22. A "public water system" means a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year as defined in Section 1401(4) of the Act, 42 U.S.C. Section 300f-4 and 40 CFR 141.2.

23. Each of Respondent's aircraft subject to this ORDER provides water for human consumption to the public and regularly serves an average of twenty-five individuals daily at least 60 days out of the year, and thus each is a "public water system" as defined in Section 1401(4) of the SDWA, 42 U.S.C. Section 300f-4, and 40 CFR 141.2.

24. A "supplier of water" means any person who owns or operates a public water system as defined in Section 1401(5) of the Act, 42 U.S.C. Section 300f-5.

25. Respondent owns and/or operates aircraft public water systems, and therefore

Respondent is a "supplier of water" as defined in Section 1401(5) of the SDWA, 42 U.S.C. Section 300f-5, and 40 CFR 141.2.

26. A "non-community water system" means a public water system that is not a community water system, as defined in Section 1401(16) of the Act, 42 U.S.C. Section 300f-16. A "community water system" is a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents, as defined in Section 1401(15) of the Act, 42 U.S.C. Section 300f-15.

27. Based upon the nature of the population served by each aircraft as described in Paragraph 20, each of Respondent's aircraft subject to this ORDER is a non-community water system because each does not have at least fifteen service connections used by year round residents or serve at least 25 year-round residents.

28. A "transient non-community water system" means a non-community water system that does not regularly serve at least 25 of the same persons over six months per year, as defined within the meaning of 40 CFR 141.2.

29. Based upon the nature of the population served by each aircraft as described in Paragraph 20, each of Respondent's aircraft subject to this ORDER is a public water system that does not regularly serve at least 25 of the same persons over six months per year; therefore, each aircraft is further defined as a "transient non-community water system" within the meaning of 40 CFR 141.2.

30. Respondent obtains its water from public water systems regulated and monitored by primacy state drinking water programs and from foreign water systems not regulated under the Safe Drinking Water Act. These public water systems and foreign water

systems are either groundwater, groundwater under the direct influence of surface water, or surface water systems.

31. Respondent's aircraft travel to multiple destinations and may obtain water as necessary from some or all of these destinations. As such, Respondent's aircraft may board drinking water from water systems at those locations that in turn may obtain their source water from either groundwater, groundwater under the direct influence of surface water, or surface water.

32. Based upon the mobility of the aircraft and the fact that on any given day each aircraft has the reasonable potential to obtain water from a system whose source water is either surface water or groundwater under the direct influence of surface water, each aircraft subject to this ORDER is subject to the requirements of 40 CFR 141 subpart H.

33. The National Primary Drinking Water Regulations (NPDWRs) at 40 CFR 141 promulgated under Section 1412 of the Act require all public water systems to monitor the quality of their water and to report results to the EPA, unless exempted from coverage under Section 1411(4) and 40 CFR 141.3.

34. Each of Respondent's aircraft subject to this ORDER is a carrier which conveys passengers in interstate commerce, and therefore each of Respondent's aircraft is a public water system subject to the NPDWRs because they are not exempted from coverage as set forth under Section 1411(4) and in 40 CFR 141.3.

35. EPA guidance for implementation of the SDWA with respect to carriers that convey passengers in interstate commerce set forth in Water Supply Guidance 29 provided that owners and/or operators of such carriers may, only upon approval from EPA, substitute a

regular operation and maintenance program for each carrier in lieu of the required monitoring.

36. Respondent does not have an EPA approved operation and maintenance program under Water Supply Guidance 29.

37. Public water systems are required by 40 CFR 141.21(a)(1) to collect routine coliform samples at sites which are representative of water throughout the distribution system, and conduct total coliform analyses on those samples as required by 40 CFR 141.21(f)(3), except as otherwise provided by Part 141. Subpart H public water systems are further required by 40 CFR 141.21(a)(3)(iii) to monitor at the same frequency as a like-sized community water system, except as otherwise provided by Part 141.

38. Based upon the fleet size, flight frequency, and total annual number of passengers cited in Paragraph 20, each aircraft in the operating fleet serves fewer than 1,000 persons per day. Public water systems serving fewer than 1,000 persons are generally required to take at a minimum one (1) sample per month. Respondent did not collect such routine monthly total coliform samples, conduct such analyses, or submit such reports for each aircraft in its operating fleet as required by 40 CFR 141.21(a), 141.21(f)(3), and 141.31 for the five year period preceding the date of this ORDER.

39. Public water systems are required under 40 CFR 141.74(a)(2) to measure for disinfectant residual concentration using one of the approved methods. Public water systems are required by 40 CFR 141.74(b)(6)(i) and/or (c)(3)(i) to measure the residual disinfectant concentration at the same points in the distribution system and at the same time as total coliforms are sampled as specified in §141.21, except as otherwise provided by Part 141.

40. Respondent did not measure and report residual disinfectant concentrations for each aircraft in its operating fleet as required by 40 CFR 141.74(a)(2) and 141.74(b)(6)(i) and/or (c)(3)(i) and 141.31 for the five year period preceding the date of this ORDER.

41. Public water systems are required by 40 CFR 141 subpart Q to provide public notification for failure to perform any water quality monitoring required by the NPDWRs.

42. Respondent did not provide public notification or provide EPA with certification and copies of the public notices as required under 40 CFR 141 subpart Q and 141.31 for the five year period preceding the date of this ORDER.

V. ORDER

Based upon the foregoing FINDINGS, EPA issues this ORDER. Respondent, without admitting to or denying these findings, consents to the issuance of this ORDER and is hereby ORDERED to comply with the following provisions for each of its aircraft:

43. Within forty-five (45) calendar days of receipt of the electronic formatting instructions from EPA and Appendix A, which are hereby incorporated by reference as an enforceable part of this ORDER, Respondent shall provide EPA with an inventory of the operating fleet, identifying each individual aircraft by tail or nose number, serial number, make and model in accordance with the formatting instructions and Appendix A. In addition, for each individual aircraft in the operating fleet, Respondent shall provide the following information to EPA in the abovementioned format:

    a. Seating capacity;

    b. Number of distinct water systems (*i.e.*, wholly separate water systems onboard an

aircraft that do no interconnect in any manner)

c. Number of water taps (*e.g.*, lavatory and galley taps);

d. Number of lavatories and number of galleys;

e. Number of drinking water fountains;

f. Number of drinking water system intakes (*e.g.*, fill ports);

g. Number and capacity of drinking water tanks;

h. Whether food service is provided (*i.e.*, beverages, meals, snacks prepared onboard the aircraft);

i. Whether filters are in the galleys or lavatories; and

j. Types of filters used in the galleys or lavatories.

Ranges (*i.e.*, minimum - maximum) may be provided for 43.a, and 43.c-f. If the exact number of drinking water taps in 43.b cannot be identified, Respondent shall indicate whether there are more or fewer than four drinking water taps on each type of aircraft.

44. Within forty-five (45) calendar days of receipt of the electronic formatting instructions from EPA and Appendix B, which are hereby incorporated by reference as an enforceable part of this ORDER, Respondent shall provide to EPA a list of names and/or locations where water is boarded on aircraft as part of the daily scheduled service, including all domestic and international airports and any other public or private sources in accordance with the abovementioned format.

45. Within forty-five (45) calendar days of the effective date of this ORDER, Respondent shall provide to EPA a description of its policies and practices for boarding drinking water from domestic and foreign water sources. Respondent shall also include any

information that Respondent has available regarding the quality of foreign source water in so far as it relates to the water quality parameters applicable to transient non-community water systems under the NPDWRs (*i.e.*, total coliform, *E. coli*, fecal coliform, turbidity, nitrate, nitrite, disinfectant residual, and heterotrophic plate count) in accordance with the format in Appendix C which is hereby incorporated by reference as an enforceable part of this ORDER.

46. Within forty-five (45) calendar days of the effective date of this ORDER, Respondent shall provide to EPA a complete description of current drinking water operation and maintenance (O&M) practices for each make and model of aircraft in the operating fleet, including procedures and frequencies for flushing and disinfecting of the drinking water system onboard the aircraft (*i.e.*, relating to the tanks, plumbing, galleys, and lavatories), maintaining filters in the galleys and lavatories, and flushing and disinfecting of watering points, and to the extent available for cabinets and associated cabinet hoses, that are owned and/or operated by Respondent in accordance with Appendix C.

47. Within forty-five (45) calendar days of the effective date of this ORDER, Respondent shall provide to EPA current copies of all its aircraft water system and watering point O&M plans approved by the EPA and those portions of its maintenance plans covering aircraft water systems approved by the Federal Aviation Administration (FAA) in accordance with Appendix C.

48. Within forty-five (45) calendar days of the effective date of this ORDER, for any location where the watering points, excluding water cabinets and associated cabinet hoses, used to board water to Respondent's aircraft are owned and/or operated by a third party,

Respondent shall provide the names of those locations and the names of the corresponding third party. If Respondent has any contractual relationship with the third party regarding O&M for the watering points, Respondent shall also provide a description of those contractual agreements, and either include copies of the relevant parts of those contracts or provide the name and address of the location where such contracts may be made available for EPA review in accordance with Appendix C.

49. Within forty-five (45) calendar days of the effective date of this ORDER and solely for the purpose of informing, in addition to the data collected in Monitoring Period I, the determination of monitoring and disinfection practices in Monitoring Period II in Paragraph 72, Respondent shall provide to EPA a description of all current and past drinking water monitoring programs and/or monitoring performed by Respondent, including monitoring performed for Respondent by Respondent's contractors, agents, and consultants, on the aircraft and watering points for total coliform, *E. coli*, fecal coliform, disinfectant residual, turbidity, nitrate, nitrite, and heterotrophic plate count, including frequency and results of all sampling performed, within the last five (5) years for the purpose of determining a monitoring frequency for Monitoring Period II in Paragraph 72 in accordance with Appendix C. This includes monitoring results for aircraft and watering points that are currently not owned and/or operated by Respondent, but were owned and/or operated by Respondent and monitored by Respondent within the past five (5) years. The monitoring data shall be submitted in accordance with the electronic formatting instructions to be sent by EPA and Appendix D, which are incorporated by reference as an enforceable part of this ORDER.

50. If Respondent has a recordkeeping practice under which copies of company records are kept for less than five (5) years, documentation of this practice shall be provided where the data is no longer available when submitting the data for Paragraph 49.

51. If Respondent has a current monitoring program requiring sampling more frequently than once per year per aircraft for total coliform, *E. coli*, turbidity, nitrate, nitrite, disinfectant residual, or heterotrophic plate count, Respondent shall continue to monitor in accordance with the program, unless a modification of that previously established monitoring plan is requested by Respondent within thirty (30) calendar days from the effective date of this ORDER and is subsequently approved by EPA. All sample results are to be submitted to EPA as part of this ORDER, but sample results submitted in Monitoring Period I for parameters other than total coliform, *E. coli*, fecal coliform, and disinfectant residual will only be used for informing future rule or policy development.

52. Within thirty (30) calendar days of the effective date of this ORDER in accordance with Appendix C, Respondent shall submit to EPA for review and approval a comprehensive representative monitoring plan that will include collecting samples from at least one galley and one lavatory for total coliform and disinfectant residual from every aircraft in its operating fleet. This monitoring plan shall be designed to collect all samples within a twelve (12) month period (hereinafter "Monitoring Period I") at the rate of approximately 25% of the operating fleet being monitored each quarter. Aircraft may not be sampled immediately after routine disinfection (*i.e.*, until the aircraft has completed at least one full day of flight services following routine disinfection). Once approved, the comprehensive monitoring plan shall be deemed incorporated as an enforceable part of

this ORDER and shall supercede Appendix E. The protocol for actual sample collection shall be consistent with the protocol in Appendix E, which is hereby incorporated by reference as an enforceable part of this ORDER. The monitoring plan shall include a schedule and a date for initiation of Monitoring Period I sampling.

53. Within thirty (30) calendar days from the effective date of this ORDER and in accordance with Appendix C, Respondent shall submit to EPA for review and approval a data quality assurance project plan (QAPP) that conforms with EPA Guidance for Quality Assurance Project Plans (QA/G-5 dated December 2002) in Appendix F, which is incorporated by reference as an enforceable part of this ORDER. Once approved, the QAPP shall be deemed incorporated as an enforceable part of this ORDER.

54. If EPA finds that the monitoring plan and/or QAPP do not meet the requirements of Paragraph 52 and Appendix E and/or Paragraph 53 and Appendix F, EPA shall promptly notify Respondent of the date by which EPA will send Respondent a written notice of the deficiencies. Upon receipt of a written notice directing modification of either the comprehensive monitoring plan or QAPP submitted in Paragraphs 52 and 53, Respondent shall, within fourteen (14) calendar days, cure the deficiencies and resubmit the document for approval by EPA. Should EPA determine that Respondent has failed to cure any deficiencies, EPA reserves the right to modify the document to correct the deficiencies and to direct the Respondent to implement the document as modified.

55. Within fifteen (15) calendar days after receiving written approval from EPA of the comprehensive representative monitoring plan and QAPP, Respondent shall begin implementing its monitoring plan for its operating fleet for Monitoring Period I. If EPA

directs Respondent to modify the comprehensive representative monitoring plan pursuant to Paragraph 54, Respondent may request additional time to implement the modified plan. The granting or denial of such requests is at the sole discretion of EPA.

56. If Respondent requires additional time to develop its monitoring plan or to commence monitoring following approval of its monitoring plan, or will not be able to monitor approximately 25% of its operating fleet by the end of the first quarter of Monitoring Period I, Respondent shall consult with EPA in the first thirty (30) calendar days following the effective date of the ORDER to discuss a modification of this schedule.

57. In Monitoring Period I, following any initial total coliform positive sample result, Respondent must report all initial total coliform positive and/or *E. coli* or fecal coliform positive sample results to EPA as soon as possible but no later than 5 p.m. Eastern Time of the following business day of learning of the initial total coliform positive result in accordance with the protocol in Appendix G, which is hereby incorporated by reference as an enforceable part of this ORDER. Respondent shall promptly report the results of any subsequent sampling resulting from the initial total coliform positive sample result as well as the corrective actions that were taken in accordance with Appendix G.

58. In Monitoring Period I following any initial total coliform positive sample result, Respondent shall cease serving water from the drinking water tanks as soon as possible but no later than 24 hours from learning of the total coliform positive sample result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample) by physically turning off the water in the galleys

and lavatories on the affected aircraft. In lieu of physically turning off the water in either or both locations, Respondent may provide public notification in those locations where water remains available for human consumption (*e.g.*, in the galley or lavatory) in accordance with Appendix G until a set of total coliform negative sample results is obtained. If the aircraft has wholly separate water systems, that do not interconnect in any way, providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

59. In Monitoring Period I, Respondent shall initiate disinfection of the affected aircraft drinking water system as soon as possible but no later than 24 hours of learning of any initial total coliform positive sample result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample), unless that time period is extended in accordance with the provisions of Appendix H, which is hereby incorporated by reference as an enforceable part of this ORDER. Following disinfection, Respondent shall collect a set of four samples. Respondent may collect these four samples immediately after disinfection. The four samples shall include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a total volume of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap. If the aircraft has wholly separate water systems, that do not

interconnect in any way, providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

60. In Monitoring Period I, Respondent may collect a set of repeat samples from the affected aircraft in accordance with Appendix G and the approved monitoring plan in Paragraph 55, which is hereby incorporated by reference as an enforceable part of this ORDER, to satisfy 40 CFR 141.21(b). If Respondent elects to not collect repeat samples, Respondent agrees not to challenge any of the initial total coliform positive sample results for data purposes. The four samples shall include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a total volume of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap. If the aircraft has wholly separate water systems, that do not interconnect in any way, providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

61. In Monitoring Period I, Respondent shall disinfect the water system on each aircraft in the operating fleet at a frequency of no less than quarterly and disinfect the watering points, excluding water cabinets and associated cabinet hoses, owned and/or operated by Respondent at a frequency of no less than monthly and in accordance with the O&M plan

submitted in Paragraph 47 provided it is demonstrated and documented to be no less effective than the practices set forth in Appendix I, which is hereby incorporated by reference as an enforceable part of this ORDER.

62. In Monitoring Period I, Respondent must report all sample results from its monitoring to EPA on a quarterly basis, with each report due ten (10) business days following the end of each monitoring quarter in accordance with 40 CFR 141.31. Respondent shall also submit the maintenance record (*i.e.*, the date of the most recent disinfection, disinfection procedure used, facility where the disinfection was performed) for each aircraft that had a total coliform positive test result during that quarter.

63. To satisfy the reporting requirements in Paragraph 62, either Respondent or the laboratories that provide the total coliform and *E. coli* or fecal coliform analysis for Respondent shall electronically provide all sample results to EPA in accordance with the electronic format to be sent from EPA and Appendix J, which are hereby incorporated by reference as an enforceable part of this ORDER. Respondent must report all residual chlorine sample results from its monitoring and the maintenance record (*i.e.*, the date of the most recent disinfection, disinfection procedure used, and facility where the disinfection was performed) for each aircraft that had a total coliform positive test result to EPA within ten (10) business days following the end of each monitoring quarter in accordance with 40 CFR 141.31(a) and in the format in Appendix J.

64. In accordance with 40 CFR 141.33, in Monitoring Period I, Respondent shall maintain a maintenance log or other form of record at 77 Comair Boulevard, Erlanger, Kentucky 41018 available for EPA review that documents the disinfection procedure used, the date,

facility where the disinfection was performed, and name of the maintenance employee who performed the disinfection procedure.

65. In Monitoring Period I, Respondent shall submit a self-certification on a quarterly basis that all aircraft water systems in the operating fleet and watering points, excluding cabinets and associated cabinet hoses, owned and/or operated by Respondent have been disinfected in accordance with the O&M plan in Paragraph 61 on the same date that the sampling data in Paragraphs 62 and 63 are submitted to EPA for each quarter in accordance with Appendix C.

66. Respondent or Respondent's representative may request to meet with EPA at the end of each quarter regarding the sampling results following the submission of the monitoring results, maintenance records, and self-certifications for that quarter. Respondent may also request a modification to the monitoring plan, monitoring frequency, O&M plan, or response measures for total coliform positive sample results from EPA at the end of a monitoring period. Respondent must submit its request in writing, which shall include a description of the rationale for the modification request and any supporting documentation. This request shall be submitted within thirty (30) calendar days of the submission of the analytical results reported for that quarter in accordance with Paragraphs 62 and 63. EPA will make reasonable efforts to consider such requests, however, the granting or denial of such requests shall be at the sole discretion of EPA. EPA will notify Respondent in writing of its determination to grant or deny a requested modification, so that an approved modification may be implemented beginning with the next full quarter of monitoring.

67. EPA may modify the monitoring or O&M plan based upon information received from Respondent or collected by the Agency, but not including information from another airline carrier, in any monitoring quarter if there is a reasonable basis to conclude that such modifications are necessary to protect public health as deemed by EPA. The modification may include, but is not limited to, modifying the monitoring or disinfection frequency. In requiring any modifications to the aircraft disinfection frequency or practices, EPA recognizes that such procedures are subject to FAA's plenary authority as part of Respondent's overall maintenance plan, that modifications must be made subject to FAA's review and approval, and that the changes could require changes in labor force or equipment necessitating an implementation schedule. It is Respondent's responsibility to secure the necessary approvals from the FAA, and Respondent will work with EPA and FAA to resolve any conflicts between EPA and FAA requirements.

68. If Respondent has objection to a modification to be required by EPA in Paragraph 67, EPA and Respondent shall consult for a period of no longer than five (5) business days to discuss this modification. If after five (5) business days a mutually acceptable modification cannot be agreed upon, Respondent may raise its position to the Office Director level within the Office of Civil Enforcement and the Office of Ground Water and Drinking Water. Each party then has five (5) business days to meet and present its respective position. If after that meeting a mutually acceptable frequency cannot be agreed upon, then EPA shall advise Respondent in writing of its position and will direct Respondent to adhere to the modification.

69. At the end of the first quarter of monitoring in Monitoring Period I, Respondent or

Respondent's representative and EPA will discuss Respondent's submissions under Paragraph 45 regarding Respondent's policies and procedures for boarding water from foreign sources not regulated by EPA if necessary. Those practices that EPA finds are either protective of public health as deemed by EPA and/or will help to ensure that drinking water from foreign sources meets the NPDWRs that Respondent and EPA agree to incorporate will be incorporated as an enforceable part of this ORDER. If such an agreement cannot be reached or EPA finds that Respondent's practices are not sufficiently protective of public health and/or ensure that drinking water from foreign sources meets the NPDWRs, Respondent will be required to provide notification to passengers in the form of postings on the aircraft, postings at the check-in counter or kiosk, as part of the airline ticket information, or in the form of a handout onboard the aircraft that the drinking water boarded is or may be from a foreign source that is not regulated under the Safe Drinking Water Act and the National Primary Drinking Water Regulations as an enforceable part of the ORDER. In such instance, to the extent feasible, bottled water must be available, at either Respondent's expense or for purchase by a passenger, for any passengers that request it.

70. Within thirty (30) calendar days after the four quarters of data from Monitoring Period I is submitted in accordance with Paragraphs 62 and 63 (or sooner if EPA and Respondent agree), EPA and Respondent or Respondent's representative will consult for a period not to exceed twenty (20) calendar days to determine a monitoring, response, disinfection, and reporting frequency and response procedure for second twelve (12) months of monitoring required under the ORDER in Paragraph 72 (hereinafter "Monitoring Period

II"), which will be based upon the monitoring and disinfection information submitted by Respondent in accordance with Paragraphs 62 and 63 and any information collected by EPA. In such changes, EPA recognizes that such procedures are subject to FAA's plenary authority as part of Respondent's overall maintenance plan, that modifications must be made subject to FAA's review and approval, and that the changes could require changes in labor force or equipment necessitating an implementation schedule. It is Respondent's responsibility to secure the necessary approvals from the FAA.

71. If after twenty (20) calendar days a mutually acceptable monitoring, disinfection, and/or reporting frequency and response procedure cannot be agreed upon, Respondent may raise its position to the Office Director level within the Office of Civil Enforcement and the Office of Ground Water and Drinking Water. Respondent has ten (10) calendar days to meet with the Office Directors and present its position to EPA. If after that meeting a mutually acceptable frequency cannot be agreed upon, Respondent shall monitor and disinfect each aircraft water system at least quarterly, disinfect the watering points, excluding cabinets and associated cabinet hoses, owned and/or operated by Respondent at least monthly, report all results at least quarterly (excluding the notification within 24 hours required for any initial total coliform positive results), and follow the response procedure described in Paragraphs 58 and 59. The entire consultation period, including elevation of Respondent's position to the Office Director level within EPA shall not exceed thirty (30) calendar days, unless the Office Directors allow more time for a decision to be made when issues are elevated after the initial twenty (20) calendar day consultation period.

72. Once a monitoring, disinfection, and reporting frequency and response procedure is either agreed upon or prescribed to the Respondent in accordance with the foregoing Paragraphs 70 and 71, Respondent is to monitor, disinfect and report at that frequency for its operating fleet and watering points, excluding cabinets and associated cabinet hoses, owned and/or operated by Respondent for a second twelve (12) month monitoring period (*i.e.,* "Monitoring Period II") and adhere to the response procedures in Paragraphs 75 - 77. The monitoring, disinfection, and reporting frequencies and response procedure determined in accordance with Paragraphs 70 and 71 will be incorporated by reference as an enforceable part of this ORDER by EPA.

73. In Monitoring Period II, Respondent shall be required to use the same monitoring plan and QAPP protocols approved by EPA in Paragraphs 52 and 53 in Monitoring Period I unless otherwise modified in accordance with Paragraphs 66 and 67 or 70 and 71.

74. In Monitoring Period II, following any initial total coliform positive sample result, Respondent shall report all initial total coliform positive and/or *E. coli* or fecal coliform positive to EPA as soon as possible but no later than 5 p.m. Eastern Time of the following business day after learning of the initial total coliform positive result in accordance with the protocol in Appendix K, which is hereby incorporated as an enforceable part of this ORDER. Respondent shall promptly report the results of any subsequent sampling resulting from the initial total coliform positive sample result as well as the corrective actions that were taken in accordance with Appendix K.

75. In Monitoring Period II following any initial total coliform positive sample result, Respondent shall cease serving water from the drinking water tanks as soon as possible

but no later than 24 hours of learning of the total coliform positive sample result by (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample) physically turning off the water in the galleys and lavatories on the affected aircraft. In lieu of physically turning off the water in either or both locations, Respondent may provide public notification in those locations where water remains available for human consumption (*e.g.*, in the galley or lavatory) in accordance with Appendix K until a set of total coliform negative sample results is obtained, unless modified pursuant to the process described in Paragraphs 70 and 71. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

76. In Monitoring Period II, Respondent shall collect repeat samples from the aircraft in accordance with Appendix K and the approved monitoring plan in Paragraph 52, which is hereby incorporated by reference as an enforceable part of this ORDER, to satisfy 40 CFR 141.21(b) as soon as possible but no later than 24 hours from learning of a total coliform positive sample result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample), unless a time extension requested by Respondent in accordance with Appendix L, which is hereby incorporated by reference as an enforceable part of this ORDER, has been granted by

EPA, unless modified pursuant to the process described in Paragraphs 70 and 71. Respondent can elect to not collect repeat samples and instead to immediately disinfect the aircraft in accordance with the procedures and timelines set forth in Appendices K and L. Respondent acknowledges that if repeat samples were collected they would have been total coliform positive. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

77. Respondent may immediately disinfect the aircraft after repeat samples are collected or may defer disinfection until the results of the repeat samples are known. If all of the repeat samples are total coliform negative, no corrective action is necessary. If any of the repeat samples are total coliform positive, disinfection of the aircraft drinking water system is required within 24 hours of learning of the total coliform positive repeat sample (or within 24 hours of the aircraft landing within the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when Respondent learned of the total coliform positive repeat sample). Samples must also be collected after disinfection to verify the disinfection removed the coliform contamination. Requests for time extensions for disinfection after the repeat sample results are known will not be granted. In the event Respondent defers disinfection, Respondent shall either physically turn off the water or provide notification as provided in Paragraph 75 and in Appendix K. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley

and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

78. In Monitoring Period II, Respondent shall continue to disinfect the drinking water system on the aircraft at a frequency of no less than quarterly and disinfect the watering points, excluding water cabinets and associated cabinet hoses, that are owned and/or operated by Respondent at a frequency of no less than monthly as provided in Paragraph 61, unless a different frequency is prescribed by EPA in Paragraphs 67 and 68 or modified pursuant to the process described in Paragraphs 66, 70 and 71, in which case Respondent shall disinfect the aircraft drinking water system on the aircraft and watering points, excluding cabinets and associated cabinet hoses, that are owned and/or operated by Respondent at that frequency.

79. In Monitoring Period II, Respondent shall continue to report all sample results, self-certifications of disinfection, and maintain maintenance logs in accordance with Paragraphs 62 and 63, unless modified pursuant to the process described in Paragraphs 70 and 71. In such event, Respondent shall report all sample results, self-certifications of disinfection, and maintain maintenance logs at that frequency and manner.

80. Respondent shall, either individually or as part of a group study with other interested third parties, conduct a study of potential confounding or contributing sources of contamination of the water systems onboard the aircraft that exist outside of the aircraft such as the watering points. This study shall include a survey of the ownership status and maintenance provisions for such sources.

81. EPA and Respondent or Respondent’s representative shall consult for no less than thirty

(30) calendar days prior to the commencement of the study of potential sources of contamination in Paragraph 80 to determine whether the study design and the protocols for the study are mutually agreeable to Respondent and EPA.

82. No later than twenty-four (24) months from the effective date of this ORDER, Respondent shall complete and submit to EPA a report detailing the findings of the study in Paragraph 80.

83. Respondent shall notify EPA of any change in its operations that would result in a change of Respondent's regulatory obligations under 40 CFR 141 subparts C and H or its obligations under the ORDER, within five (5) calendar days following the effective date of such change or of the Director of Corporate Safety learning of this change in accordance with Appendix C. This notification includes changes in operations such as changes to the aircraft water system O&M plan, changes to the monitoring protocol, and other similar changes. Respondent should not report changes in Respondent's operations that do not affect Respondents drinking water obligations.

84. Respondent shall notify EPA in writing of any additions to or reductions (*e.g.*, sale or lease of aircraft) of its operating fleet or the addition of an airport where water is boarded to Respondent's destinations, as part of the required reports in Paragraphs 62, 63, and 72 in accordance with Appendix M, which is hereby incorporated as an enforceable part of this ORDER.

85. Respondent shall notify EPA of any information regarding the quality of foreign source water in so far as it relates to the water quality parameters applicable to transient non-community water systems under the NPDWRs (*i.e.*, total coliform, *E. coli*, fecal coliform,

turbidity, nitrate, nitrite, disinfectant residual, and heterotrophic plate count) with the next required report in Paragraphs 62, 63, and 72 of such information subsequently becoming available to Respondent after its initial submission under Paragraph 45. This information shall be provided in accordance with Appendix C in Paragraph 45 which is hereby incorporated by reference as an enforceable part of this ORDER.

86. Beginning with the effective date of this ORDER, Respondent shall use the aircraft tail or nose number when submitting any information regarding an aircraft.

87. Respondent shall submit a certification statement signed by the Vice-President responsible for Environmental Safety or equivalent along with every submission of information required under Paragraphs 62, 63, and 72 of this ORDER. The certification shall be in the following form:

> I certify that the information contained in or accompanying this submission is true, accurate, and complete.
>
> As to the identified portion(s) of this submission for which I cannot personally verify its truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting under my direct instructions, made the verification, that this information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.
>
> By_____
> (Name)
> _____
> (Signature)
> _____
> (Title)
> _____
> (Date)

See Appendix N.

88. Reporting required under this ORDER is to be provided to the EPA in accordance with the applicable appendices at the following address:

Laurie D. Dubriel, Esq.
U.S. EPA (2243A)
1200 Pennsylvania Ave., NW
Washington, DC 20460

EPA will notify Respondent in writing when submissions are to be provided to:

SAIC
11251 Roger Bacon Drive
Reston, VA 20190

89. Respondent is to maintain all records in accordance with 40 CFR 141.33 as of the effective date of this ORDER.

VI. SAMPLE INVALIDATION

90. If any initial sample results are invalidated in accordance with 40 CFR 141.21(c) in Monitoring Period I or II, Respondent shall resample that aircraft lavatory and galley in accordance with the approved monitoring plan in Paragraph 55. Disinfection and additional sampling are not required unless any of the results of the resamples are total coliform positive. In such instance, Paragraphs 57 - 61 and 74 - 78 shall be followed in Monitoring Periods I and II, respectively.

VI. PARTIES BOUND

91. The provisions of this ORDER shall apply to and be binding upon Respondent and their employees, agents, successors, and assigns. Notice of this ORDER shall be given to any successors in interest prior to transfer of the ownership or operations of any aircraft. Action or inaction of any person, firm, contractor, employee, agent, or corporation under, through, for or in participation with Respondent shall not excuse any failure of

Respondent to fully perform the obligations under this ORDER.

92. Respondent shall provide a copy of this ORDER or the relevant portions of this ORDER to any and all business organizations, contractors, subcontractors, laboratories, or consultants which are retained to perform any portion of the work related to the implementation of this ORDER. A copy of the ORDER or the relevant portions of this ORDER shall be provided within seven (7) days of the effective date of this ORDER or of the date of retention of such contractor, subcontractor, laboratory, or consultant.

93. Any aircraft added to Respondent's operating fleet and any watering points, excluding cabinets and associated cabinet hoses, acquired by Respondent or for which Respondent assumes operational control during the life of the ORDER shall be immediately subject to the requirements of the ORDER.

VII. FORCE MAJEURE

94. If any event occurs which causes delay in the achievement of any requirement of this ORDER, Respondent shall have the burden of proving that the delay was caused by circumstance beyond the reasonable control of Respondent or any entity controlled by Respondent, including but not limited to its agents, consultants and contractors, which could not have been overcome by due diligence. Respondent shall notify EPA orally within 72 hours, and in writing within seven (7) business days of the oral notification, of the anticipated length and cause of the delay, the measures taken and/or to be taken to prevent or minimize the delay, and the time table by which Respondent intends to implement these measures. If EPA agrees that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of Respondent, time for

performance hereunder shall be extended for the minimum amount of time reasonable necessary to address the delay resulting from such circumstances. Respondent shall adopt all reasonable measures to avoid or minimize delay. Failure of Respondent to comply with the notice requirements of this paragraph shall constitute a waiver of Respondent's right to request an extension to meet the requirements of the ORDER.

95. "Force Majeure" for the purposes of this ORDER is defined as an event arising from causes beyond the control of Respondent or the control of any entity controlled by Respondent, including its agents, consultants and contractors, (*e.g.*, terrorist attacks, loss of aircraft, FAA air traffic decisions to postpone or reroute aircraft, grounding of the aircraft fleet by the Department of Transportation, and actions taken by the pilot in command primarily for the safe operation of the aircraft under 14 CFR 91.3(a)) which delays or prevents the performance of any obligation under this ORDER. Unanticipated or increased costs or expenses associated with implementation of this ORDER and changed financial circumstances shall not, in any event be considered "Force Majeure" events.

96. The provisions in Paragraph 94 do not apply to situations where Respondent has requested a time extension under Paragraphs 59 and 76 and in accordance with Appendices H and L.

VIII. CONFIDENTIAL BUSINESS INFORMATION

97. Respondent is entitled to assert a business confidentiality claim pursuant to the regulations set forth in 40 C.F.R. Part 2, Subpart B for any information that is required to be submitted under this ORDER. If EPA determines the information you have

designated meets the criteria in 40 C.F.R.§ 2.208, the information will be disclosed only to the extent and by means of the procedures specified in Subpart B. Unless a confidentiality claim is asserted at the time the requested information is submitted, EPA may make the information available to the public without further notice to Respondent.

98. In the event that Respondent makes information available to the public subsequent to claiming it as confidential business information, EPA may make that same information available to the public in accordance with the procedures set forth in 40 CFR 2 subpart B.

IX. GENERAL PROVISIONS

99. This ORDER is effective upon receipt by a representative of Comair, Inc. of a copy of the ORDER signed by Respondent and EPA.

100. This ORDER will remain in effect until the all results of the monitoring in Monitoring Period II has been submitted to EPA in accordance with Paragraph 72.

101. The ORDER may be extended for one (1) year intervals upon the consent of both parties.

102. Where there are deadlines found in the ORDER, the parties can mutually agree to extensions to such deadlines if necessary, however, such extensions cannot interfere with the fundamental requirements of the ORDER.

103. Violation of any term of this ORDER may subject Respondent to an administrative civil penalty of up to $27,500 under Section 1414(g)(3)(B) of the Act, 42 U.S.C. Section 300g-3(g)(3)(B), or a civil penalty of not more than $32,500 per day of violation, assessed by an appropriate United States District Court, under Section 1414(g)(3)(A) and (C) of the Act, 42 U.S.C. Section 300g-3(g)(3)(A) and (C), or a civil penalty of not more than $32,500 for failure to comply under Section 1445(a) of the Act, 42 U.S.C. Section

300j-4(c).

104. This ORDER does not constitute a waiver, suspension, or modification of the requirements of the SDWA or 40 CFR 141, which remain in full force and effect. Issuance of this ORDER is not an election by EPA to forego any civil or any criminal action otherwise authorized under the Act.

105. Compliance with the requirements of this ORDER does not relieve Respondent of the obligation to comply with all other applicable laws and regulations.

106. Except for Respondent's admission and waiver of any objection to EPA's jurisdiction and authority to issue and enforce any part of this ORDER as set forth in Paragraph 2, Respondent reserves all defenses available to it in any future civil proceedings with any third party for noncompliance with the SDWA or the NPDWRs.

1/11/06

Date

Mark Pollins, Director
Water Enforcement Division

12/8/5

Date

Mark Berner
Director of Corporate Safety
Comair, Inc.

APPENDIX A: Formatting Instructions for Operating Fleet Aircraft Inventory

Within forty-five (45) calendar days of receipt of the electronic formatting instructions from EPA, all inventory data shall be submitted in that format. All information required to be submitted in accordance with this Appendix shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. All information shall be submitted in English.

APPENDIX B: Formatting Instructions for Water Service Information

Within forty-five (45) calendar days of receipt of the electronic formatting instructions from EPA, all water service information shall be submitted in that format. All information required to be submitted in accordance with this Appendix shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. All information shall be submitted in English.

APPENDIX C: General Formatting Instructions

All information required to be submitted in accordance with this Appendix shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. The information on the compact disk shall be in either WordPerfect 9.0 or in an Adobe Reader 6.0 pdf file. All information shall be submitted in English.

APPENDIX D: Formatting Instructions for Past Monitoring Data

Within forty-five (45) calendar days of receipt of the electronic formatting instructions from EPA, all past monitoring data shall be submitted in that format. All information required to be submitted in accordance with this Appendix shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. All information shall be submitted in English.

APPENDIX E: Protocol for Sample Collection

Comair, Inc. Protocol for Sampling Drinking Water on Commercial Aircraft

1. Comair, Inc.'s Purpose

    1.1. To collect drinking water samples from onboard commercial passenger aircraft to fulfill Comair, Inc.'s obligations under the administrative order on consent.

2. Applicability

    2.1. This protocol applies to monitoring activities conducted by Comair, Inc. or its contractors of Comair, Inc.'s operating fleet related to the administrative order on consent.

3. References

    3.1. *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992), 19th edition (1995), or 20th edition (1998). American Public Health Association, 1015 Fifteenth Street NW, Washington, D.C., 20005.

    3.2. U.S. EPA. 1986. Methods for Chemical Analysis of Water and Wastes. EPA600/4-79/020. Office of Research and Development. Washington, DC.

    3.3. U.S. EPA 815B-97-001 March 1997. Manual for Certification of Laboratories Analyzing Drinking Water. 4th Addition.

4. Analytical Methods

    4.1. Methods, preservation techniques and sample holding time utilized for this study are given in Table 4-1. (***Table 4-1 is an example***)

Table 4-1. Analytical Method Requirements

Analyte	MCL or Treatment Technique	Analytical Method	Holding Time	Bottle	Preservative[1]
Total Residual Chlorine (TRC)	4 mg/L	Hach or similar - DPD Colorimetric / Color Disc	Field Test	25-mL tube or as specified by the field test kit	None
Total Coliforms, *E. coli*	Presence-absence If present, test for *E. coli*	SM 9223-B (AWWA)	30 hours	100-mL Sterile Plastic with non-toxic cap	Cool to 4 °C 0.008% $Na_2S_2O_3$ if TRC present[2] and Cool to 4 °C
Temperature	N/A	SM 2550 (AWWA)	Field Test	N/A	N/A

1 Preservative to be added to empty bottle by laboratory prior to sample collection.
2, 3 For the purposes of this study, it will be assumed that TRC is present and all samples will be preserved with $Na_2S_2O_3$.

(***NOTE: Any of the following approved analytical methods can be used for analysis of parameters required under the ORDER.***)

§141.23 Inorganic Chemical Sampling and Analytical Requirement						
Contaminant and Methodology	**MCL (mg/l)**	**Detection limit (mg/l)**	**EPA**	**ASTM[2]**	**SM[3]**	**Other**
Nitrate Ion Chromatography	**10** **(as Nitrogen)**	0.01	[1] 300.0	D4327-91	4100 B	B-1011[4]
Automated Cadmium Reduction	….	0.05	[1] 353.2	D3867-90A	4500 – NO_3 - F	....
Ion Selective Electrode	….	1	….	….	4500 – NO_3 - D	601[5]
Manual Cadmium Reduction	….	0.01	….	D3867-90B	4500 – NO_3 - E	....
Nitrite Ion Chromatography	**1** **(as Nitrogen)**	0.004	[1] 300.0	D4327-91	4110 B	B-1011[4]
Automated Cadmium Reduction	….	0.05	[1] 353.2	D3867-90A	4500 – NO_3 - F	....
Manual Cadmium Reduction	….	0.01	….	D3867-90B	4500 – NO_3 - E	....
Spectrophotometric	….	0.01	….	….	4500 – NO_2 - B	....

[1] "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA/600/R-93 10, August 1993. Available at NTIS, PB94-120821.

[2] *Annual Book of Standards,* 1994 and 1996,Vols. 11.0 and 11.02, American Society for Testing and Materials. The previous version old D1688-95A D16888-95C (copper), D3559-95-D (lead), D1293-95 (pH), D1125-91A (conductivity) and D859-94 (silica) are also approved. These previous versions D1688-90A, C; D3559- 90D, D1293-84, D1125-91A and D859-88 respectively are located in the *Annual Book of ASTM* ,1994, Vols. 11.01. Copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor drive, West Conshohocken, PA 19428.

[3] 18th and 19th editions of Standard Methods for the Examination of Water and Wastewater, 1992 and 1995 respectively, American Public Health Association; either edition may be used. Copies may be obtained from the American Public Health Association, 1015 Fifteenth Street NW, Washington, DC 20005.

[4] Method B-1011, "Water Test Method for the Determination of Nitrate/Nitrite in Water Using Single Column Ion Chromatography" August 1987. Copies may be obtained from Waters Corporation, Technical Services Division, 34 Maple Street, Milford, MA 02129.

[5] The procedure shall be in accordance with the Technical Bulletin 601 "Standard Method of Test for Nitrate in Drinking Water", July 1994, PN 221890- 001, Analytical Technology, Inc. Copies may be obtained from ATI Orion, 529 Main Street, Boston, MA 02129.

§141.74 Analytical and Monitoring Requirements		
Organism	**Methodology**	**Citation[1]**
Total Coliform	**Total Coliform Fermination Technique [3,4,5].**	**9221 A , B, C**
	Total Coliform Membrane Filtration[6].	**9222 A, B, C**
	ONPG-MUG Test[7].	
	Fecal Coliform Procedure[8].	**9223**
Fecal Coliforms	**Fecal Coliform Filter Procedure.**	**9221 E**
	Pour Plate Method.	**9222 D**
Heterotropic Bacteria[2]	**Nephelometric Method.**	**9215 B**
Turbidity	**Nephelometric Method.**	**2130 B**
	Great Lakes Instruments.	**180.1[9]**
		Method 2[10]

[1] Except where noted, all methods refer to Standard Methods for the examination of Water and Wastewater, 18th edition 1992 and 19th edition 1995, American Public Health Association, 1015 Fifteenth Street NW, Washington, DC 20005; either edition may be used.

[2] The time from sample collection to initiation of analysis may not exceed 8 hours. Systems must hold samples below 10/ C during transit.

[3] Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the system conducts at least 25 parallel tests between this medium and lauryl tryptose broth using the water normally tested, and this comparison demonstrates that the false positive rate and false negative rate for total coliform, using lactose broth, is less than 10 percent.

[4] Media should cover inverted tubes at least one-half to two- thirds after the sample is added.

[5] No requirement exists to run the completed phase on 10 percent of all total coliform-positive confirmed tubes.

[6] MI agar also may be used. Preparation and use of MI agar is set forth in the article, "New medium for the simultaneous detection of total coliform and Escherichia coli in water" by Brenner, KP., et al., 1993 Appl. Enviro. Microbiol. 59:3534-3544. Also available from the office of Water Resource Center (RC-4100), 1200 Pennsylvania Ave., NM., Washington, DC 20460, EPA 600/J-99/225.

[7] The ONPG-MUG Test is also known as the Autoanalysis Colilert System.

[8] A-1 Broth may be held up to three months in a tightly closed screw cap tube at 4/ C.

[9] "Methods for the Determination of Inorganic Substances in Environmental Samples", EPA/600/R-93/100, August 1993/ Available at NTIS PB94-121811.

[1] GLI Method 2, "Turbidity" November 2, 1992, Great Lakes Instruments, Inc., 8855 North 55th Street, Milwaukee Wisconsin 53223.

§141.74 Analytical and Monitoring Requirements		
Residual	**Methodology**	**Methods**
Free Chlorine	**Amperometric Titration**	**4500-Cl D**
	DPD Ferrous Titrimetric	**4500-Cl F**
	DPD Colorimetric	**4500-Cl G**
	Syringaldazine (FACTS)	**4500-Cl H**
Total Chlorine	**Amperometric Titration**	**4500-Cl D**
	Amperometric Titration (low level measurement)	**4500-Cl E**
	DPD Ferrous Titrimetric	**4500-Cl F**
	DPD Colorimetric	**4500-Cl G**
	Iodometric Electrode	**4500-Cl I**
Chlorine Dioxide	**Amperometric Titration**	**4500-ClO_2 C**
	DPD Method	**4500-ClO_2 D**
	Amperometric Titration	**4500-ClO_2 E**
Ozone	**Indigo Method**	**4500-O_3 B**

4.2. Analyses to be Performed:

4.2.1. All drinking water samples collected from onboard aircraft shall be analyzed for total coliform and disinfectant residual.

4.2.2. All drinking water samples collected from onboard aircraft will also be analyzed for **<insert additional parameters that are part of an existing monitoring program>**.

4.2.3. If total coliform is found to be present, then the sample shall be analyzed for ***E. coli*fecal coliform**.

5. Materials Required

5.1. Data Sheet (**See Attached**)

5.2. Copy of this protocol

5.3. Chain of Custody (supplied by laboratory)

5.4. Indelible pen.

5.5. Sample Bottles – See Section 4 for bottle type, size and preservative

5.6. Cooler with Ice (Note: ice packs are preferable to ice cubes.)

5.7. Rubbing Alcohol (isopropyl alcohol) and cotton swabs or prepared alcohol wipes.

5.8. Field Total Residual Chlorine Test Kit, Range 0 – 3.5 mg/L

5.9. Rubber / Latex Exam Gloves

5.10. Safety glasses

6. Safety and Sample Integrity

6.1. Rubber gloves shall be utilized when handling samples to minimize sample contamination and exposure to sample preservatives.

6.2. Safety glasses shall be worn when filling sample bottles.

6.3. Bottles are to be kept closed until ready to be filled.

7. Procedure

7.1. Pre-Sampling Activities:

7.1.1. Notify laboratory and place order for sample bottles, labels and cooler(s) at least 48 hrs prior to sampling. (Note: You will need a separate cooler for each day/location of sample collection.)

7.2. Sampling Event Preparation

7.2.1. On each aircraft, total coliform samples shall be collected from a galley tap and a lavatory tap. (Note: Galley samples are to be collected from a cold water tap only. If the only sampling point in the galley is the coffee maker and/or hot water tap, a sample is to be collected at that location. It must be indicated on the data sheet that the sample was collected from a coffee maker

or hot water tap and the temperature of the water as it leaves the tap.)

7.2.2. Total residual chlorine samples shall be collected from the galley and lavatory onboard the aircraft

7.2.3 Notify ramp personnel to refrain from servicing aircraft water system until completion of sampling.

7.2.4. Pre-Label all bottles with the following information:

7.2.4.1. Sample ID correlating to the one listed on the Chain of Custody (COC) and Data Sheet.

7.2.4.2. Date and time of collection.

7.2.4.3. Analyses requested (*e.g.*, total coliforms).

7.2.4.4. Sampler's initials.

7.3. Total Residual Chlorine Analysis (Colorimetric or DPD Color disc method)

7.3.1. Put on safety glasses and gloves.

7.3.2. Swab faucet and water outlet with alcohol.

7.3.4. Allow to air dry.

7.3.5. A colorimeter is to be used following the procedure provided with the colorimeter. A color disc may be used as an alternative to the colorimeter using the color disc method described below.

7.3.6. Open tap fully at sample location and allow water to run to waste for 2 – 3 minutes. (Note: Steps 7.3.2 - 7.3.6 do not need to be repeated in the lavatory if this was previously done when the total coliform sample was collected at this sampling point.)

7.3.7. Fill one of two sample tubes to fill line with sample. This is the blank sample. Place tube in left opening of color comparator.

7.3.8. Fill square 25-ml bottle to mark with sample.

7.3.9. Add contents of DPD Total Chlorine Reagent powder pillow to bottle and swirl to mix. Wait 3 minutes.

7.3.10. Fill second tube to bottom line with prepared sample.

7.3.11. Place second tube in right opening of color comparator.

7.3.12. Hold comparator up to bright light.

7.3.13. Rotate the color disc until the colors in left and right windows match.

7.3.14. Read the mg/L Cl2 directly off of the 0 – 3.5 mg/L scale.

7.3.15. Record result on Data Sheet.

7.3.16. Record method used (Color Disc, Colorimeter)

7.3.17. Record location of sampling and if faucet was equipped with a filter. (Note: There should not be a filter in the lavatories)

7.4. Total Coliforms

7.4.1. Put on safety glasses and gloves.

7.4.2. Inspect galley faucet for aerator on outlet. If present, remove if possible, clean and re-install.

7.4.3. Swab galley faucet and water outlet with alcohol.

7.4.4. Allow to air dry.

7.4.5. Open tap fully and allow water to run to waste for 2 to 3 minutes. (Note: Steps 7.4.2 - 7.4.5 do not need to be repeated in the lavatory if this was previously done when the total residual chlorine sample was collected at this sampling point.)

7.4.6. Reduce water flow to allow sampling of water without splashing out of container. Do not sample from leaking taps or taps which allow water to run down outside of faucet.

7.4.7. Open sterile cap for total coliform sample bottle.

7.4.8. Do not touch interior of cap or top of bottle. Do not place cap on counter.

7.4.9. Place bottle under water stream. Allow approximately 1 inch air gap between top of bottle and water faucet.

7.4.10. Do not rinse bottle. Do not fill bottle to top. Allow 1” air gap in top of bottle.

7.4.11. Replace cap and tighten.

7.4.12. Ensure that sample ID matches that recorded on Data Sheet.

7.4.13. Place bottles into Ziplock ® or similar bag. Place bag in cooler with ice.

7.4.14. Complete chain of custody (COC) sheet provided by laboratory. Ensure that sample ID matches that on the label and Data Sheet. If COC not provided in duplicate, photocopy COC for records.

7.4.15. Sign and date the following statement on the Data Sheet. If there was any deviation from protocol, note at the bottom of Data Sheet.

7.4.15.1. **I certify that all samples were collected in accordance with the protocol entitled “Protocol for Sampling Drinking Water on Commercial Aircraft”.** Signature Date

7.4.14 Steps 7.4.1 - 7.4.15 are to be followed any time total coliform samples are collected from an aircraft (*e.g.*, initial sample collection, repeat sampling, pre/post-disinfection sampling).

7.5 Temperature

7.5.1. When total coliform samples are collected from a coffee maker or hot water tap in the galley, the temperature of the water as it leaves the tap shall be taken. See *Standard Methods*, SM 2550.

7.5.2. Collect the water from the coffee maker or hot water tap in a collection container.

7.5.3. Insert thermometer into cup and keep in cup until the temperature stabilizes if a mercury thermometer is used or until there is a reading in accordance with the instructions if a digital thermometer is used.

7.5.4. Record result on Data Sheet.

7.5.5. Record location and whether the sample was collected from a coffee maker or hot water tap.

8. Quality Control

8.1. Laboratories shall be state- or EPA-certified for the specific drinking water analyses.

8.2. Field duplicates shall be collected at a rate of 1 duplicate per **??** samples. A field duplicate is an independent sample collected at the same location as a field sample. The duplicate is placed in a separate set of containers from the first sample and labeled using a different sample identification number than the original sample.

8.3. Laboratory quality control must be in compliance with the Manual for Certification of Laboratories Analyzing Drinking Water. (4th Edition U.S. EPA 815-B-97-001 March 1997).

9. Data Management

9.1. Laboratory shall report results in accordance with the Manual for Certification of Laboratories Analyzing Drinking Water.

9.2. Laboratory report must include the date and time of sample receipt, date and time of analysis, protocol used and analyst performing test.

9.3. All data sheets and associated COC sheets to be forwarded immediately to:

Insert Name and address

10. Attachments (separate documents)

10.1. Sampling Data Sheet

APPENDIX F: Instructions for Quality Assurance Project Plans

The following EPA Guidance for Quality Assurance Project Plans (QA/G-5 dated December 2002) for quality assurance project plans (QAPP) shall be followed in the development of the QAPP. The QAPP shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. The information on the compact disk shall be in either WordPerfect 9.0 or in an Adobe Reader 6.0 pdf file.

In addition to the information described in the QAPP guidance, the following specific information shall also be included:

- Provisions whereby initial samples for total coliform and disinfectant residual are not collected immediately after disinfection (*e.g.*, following disinfection there must be at least one full day of flight services prior to before sample collection)
- Description of where samples will be collected
- Names of the laboratories providing analytical services
- Description of who will collect samples (*e.g.*, company maintenance, contractor, *etc.*)
- Description of training for sample collectors

APPENDIX G: Monitoring Period I Protocol for Total Coliform Positive Sample Results

After learning of any initial total coliform positive sample result, Respondent shall:

1. As soon as possible but no later than 5 p.m. Eastern Time of the following business day from learning of a total coliform positive sample result, notify one of the following EPA representatives of the positive total coliform positive result by e-mailing (or faxing if no electronic version is available) a copy of the laboratory report along with the aircraft tail or nose, date of sample collection, aircraft make and model, the last departure city/airport code, and the arrival city/airport code where the samples were collected to:

   airlinedrinkingwater@epa.gov
   (202) 564-0024

2. As soon as possible but no later than twenty-four (24) hours from learning of the total coliform positive sample result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample): (1) physically turn off all aircraft water system water taps and/or spigots to the galleys and lavatories (*i.e.*, lavatory sinks), (2) provide notification in the form of placards in all of the aircraft lavatories and galleys, or (3) some combination of turning off the water system to portions of the aircraft and notification where water remains available for human consumption. These measures shall continue until a set of total coliform-negative samples has been obtained.

3. Provide a handout notifying passengers of the contamination and corrective actions to be taken if any passengers are served water from the tanks onboard the aircraft or coffee or tea prepared with water from the tanks onboard the aircraft prior to serving the passenger until a set of total coliform negative sample results has been obtained and are communicated to EPA in writing in accordance with 7 below.

4. Provide a waterless hand sanitizer in the lavatories regardless of whether the water is physically turned off in the lavatories for hand washing purposes. This is an interim corrective action that is not to exceed thirty (30) calendar days.

5. Disinfect the aircraft water system within 24 hours of learning of the initial total coliform result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample), unless that time is extended in accordance with Appendix H of this Order.

6. Collect four samples following disinfection of the aircraft water system to confirm that the aircraft drinking water system is free of coliform bacteria contamination. The four samples shall include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a total of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap. Post-disinfection samples may be collected immediately after disinfection.

7. Send an e-mail or fax containing a copy of the laboratory report for all samples taken pre- and post-disinfection, the date the disinfection took place, whether the tanks were drained and refilled prior to resampling, and whether the water was physically turned off and/or notification was provided within 24 hours of receiving the set of negative total coliform sample results to the following persons, or such successors as EPA shall designate:

Laurie Dubriel	202-564-0024	airlinedrinkingwater@epa.gov
Lourdes Bufill	202-564-0024	airlinedrinkingwater@epa.gov

8. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions in 1 - 7 shall only be implemented for the water system that had a total coliform positive sample result collected from it.

Respondent may collect a set of four repeat samples prior to disinfection of the aircraft as well. The four samples are to include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a total of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap.

If Respondent elects to provide notification, the following notification shall be used in the lavatory when there is a total coliform positive, *E. coli* or fecal coliform negative sample result that affects that lavatory:

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were recently detected in a sample(s) collected from this aircraft and this was a warning of potential problems.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of coliform bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to

request canned or bottled water while onboard. Handwashing with soap and water is generally safe and advised, however, a waterless hand sanitizer has been provided for your convenience.

If Respondent elects to provide notification, the following notification shall be used in the galley and handouts when there is a total coliform positive, *E. coli* or fecal coliform negative sample result that affects that galley:

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were recently detected in a sample(s) collected from this aircraft and this was a warning of potential problems.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of coliform bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled beverages while onboard.

If Respondent elects to provide notification, the following notification shall be used in the lavatory when there is an *E. coli* or fecal coliform positive sample result that affects that lavatory:

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems. Fecal coliform or E. coli bacteria were recently detected in a sample(s) collected from this aircraft.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of fecal coliform and E. coli bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled water while onboard. Handwashing with soap and water is generally safe and advised, however, a waterless hand sanitizer has been provided for your convenience.

If Respondent elects to provide notification, the following notification shall be used in the galley and handouts when there is an *E. coli* or fecal coliform positive sample result that affects that galley:

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes

can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems. Fecal coliform or E. coli bacteria were recently detected in a sample(s) collected from this aircraft.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of fecal coliform and E. coli bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled beverages while onboard.

Alternatively, an onboard announcement using the above-mentioned language may be made by the flight crew along with other safety announcements prior to the affected aircraft's departure in lieu of placards.

APPENDIX H: Protocol for Requests for Time Extensions in Monitoring Period I

If Respondent needs to request a time extension of the 24 hour time period to initiate disinfection and/or resampling in Monitoring Period I following any initial total coliform positive sample result, Respondent shall:

1. Contact one of the following EPA representatives, or such successors as EPA shall designate, during business hours (7:30 a.m. - 5:30 p.m. Eastern Time Monday through Friday) by telephone or e-mail the same day of the learning of the total coliform positive result:

Laurie Dubriel	202-564-4031	airlinedrinkingwater@epa.gov
Lourdes Bufill	202-564-5128	airlinedrinkingwater@epa.gov

2. Immediately, follow-up the communication (*i.e.*, telephone conversation, voice or e-mail) with an e-mail or fax to the EPA representative contacted explaining why a time extension is needed, the aircraft tail or nose number, date of the sample collection, current location of the aircraft, the sample result, a copy of the laboratory report, and disinfectant residual result. This information may be faxed to 202-564-0024. The requirements for the provision of a copy of a laboratory report in Appendix G apply here, except that the report must be provided in 24 hours instead of by 5 p.m. Eastern Time of the following business day. EPA will orally and/or by e-mail communicate whether the time extension is granted no later than three (3) hours from receiving the initial request for a time extension. If EPA does not respond within three (3) hours, it may be assumed that the time extension is automatically granted.

3. If notification of total coliform positive sample results is received from the laboratory after business hours Monday through Thursday, send one of the above listed EPA representatives the information required in 2 above by e-mail or fax the same day of being notified by the laboratory of the total coliform sample results, and follow-up that communication with a telephone call the next business day. EPA will orally and/or by e-mail communicate whether the time extension is granted no later than three (3) hours from receiving the follow-up telephone call. If a time extension is not granted, Respondent will be given 24 hours from the time when the extension was denied.

4. If Respondent is notified of a total coliform positive sample result between 5:30 p.m. Friday and 7:30 a.m. Monday Eastern Time, send one of the above listed EPA representatives the information required in 2 above by e-mail or fax the same day of being notified by the laboratory of the total coliform sample results, and follow-up that communication with a telephone call the next business day. An automatic time extension of 72 hours will be deemed as granted only if the

above mentioned information is submitted the same day of receiving the sampling results.

5. If the aircraft is not disinfected within 24 hours of learning of the initial total coliform positive sample result, drain and refill all of the potable water tanks onboard the aircraft at the first practical opportunity after learning of the initial positive total coliform sample result. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions shall only be implemented for the water system that had a total coliform positive sample result collected from it.

During the period of the time extension, the requirements for physically turning off the water and/or providing notification and a hand sanitizer as described in Appendix G still apply. Time extension of no more than 72 hours may be granted, unless the aircraft is taken out of service (*i.e.*, no passengers are being transported on the aircraft) or physically turning off all aircraft water system taps and/or spigots to the galleys and lavatories (*i.e.*, lavatory sinks). In such instances, the 24 hour and 72 hour time periods will not apply; however, water shall not be served from the drinking water tanks until the tanks are disinfected.

Time extensions may be granted for the following logistical reasons:

- The aircraft is outside of the United States;
- Weather conditions prevent transportation of the aircraft to a maintenance station;
- The laboratory error in reporting the sample results (*i.e.*, the wrong aircraft is identified);
- The nearest maintenance station cannot provide disinfection within 24 hours due to scheduling; or
- Other similar logistical reasons.

APPENDIX I: Operation and Maintenance (O&M) Procedures

Respondent shall immediately upon issuance of the Order implement or continue to implement O&M practices to provide flushing and disinfection of the aircraft water system no less than quarterly, and for flushing and disinfection of watering points, excluding water cabinets and associated water cabinet hoses, owned and/or operated by Respondent no less than monthly. These O&M practices shall be demonstrated and documented to be no less effective than the following measures:

1. Open all taps and completely drain water from the water tanks.
2. Feed a chlorine solution into the water system until at least 100 ppm of total residual is read at all taps.
3. Allow the chlorine solution to stand in the water system at least an hour and then drain through all taps until completely empty.
4. Refill the water system with drinking water from a water source and allow to overflow for two minutes.

If the manufacturer recommendations specify the use of some other type of disinfectant or concentration of chlorine, then that disinfectant in the concentration recommended by the manufacturer may be used in lieu of chlorine or the recommended concentration of chlorine may be used in 2 above.

APPENDIX J: Instructions for Electronic Data Submissions

Upon receipt of the electronic format from EPA, this format shall be used for each quarterly data submission. All information required to be submitted in accordance with this Appendix shall be sent in the form of three paper copies with each paper copy accompanied by the information on a compact disk. All information shall be submitted in English.

APPENDIX K: Monitoring Period II Protocol for Total Coliform Positive Sample Results

After learning of any initial total coliform positive sample result, Respondent shall:

1. As soon as possible but no later than 5 p.m. Eastern Time of the following business day from learning of a total coliform positive sample result, notify one of the following EPA representatives of the positive total coliform positive result by e-mailing (or faxing if no electronic version is available) a copy of the laboratory report along with the aircraft tail or nose, date of sample collection, aircraft make and model, the last departure city/airport code, and the arrival city/airport code where the samples were collected to:

   airlinedrinkingwater@epa.gov
   (202) 564-0024

2. As soon as possible but no later than twenty-four (24) hours from learning of the total coliform positive sample result (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when learning of the initial total coliform positive sample): (1) physically turn off all aircraft water system water taps and/or spigots to the galleys and lavatories (*i.e.*, lavatory sinks), (2) provide notification in the form of placards in all of the aircraft lavatories and galleys, or (3) some combination of turning off the water system to portions of the aircraft and notification where water remains available for human consumption. These measures shall continue until a set of total coliform-negative samples has been obtained.

3. Provide a handout notifying passengers of the contamination and corrective actions to be taken if any passengers are served water from the tanks onboard the aircraft or coffee or tea prepared with water from the tanks onboard the aircraft prior to serving the passenger until a set of total coliform negative sample results has been obtained and are communicated to EPA in writing in accordance with 7 below.

4. Provide a waterless hand sanitizer in the lavatories regardless of whether the water is physically turned off in the lavatories for hand washing purposes. This is an interim corrective action that is not to exceed thirty (30) calendar days.

5. Resample the aircraft water system within 24 hours of learning of the initial total coliform result, unless Respondent has obtained a time extension in accordance with Appendix L of this Order. The four samples are to include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a

total of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap.

6. Respondent can elect to not collect repeat samples and instead to immediately disinfect the aircraft. If Respondent immediately disinfects the aircraft and does not collect repeat samples, Respondent may have a total of 72 hours to complete the disinfection of the aircraft drinking water system if more time is needed to transport the aircraft to a maintenance location; however, the aircraft shall not transport any passengers.

7. Disinfect the aircraft water system within 24 hours of learning that any of the repeat samples are total coliform positive (or within 24 hours of the aircraft landing in the jurisdiction of the United States if the aircraft was located outside of the jurisdiction of the United States when Respondent learned of the total coliform positive repeat sample). If more time is needed after the 24 hour deadline has passed to transport the aircraft to a maintenance location where disinfection can occur, more time is allowed as reasonably necessary to transport the aircraft, but the aircraft shall not transport any passengers. Otherwise, no requests for time extensions will be granted for disinfection of the aircraft water system after the results of repeat samples have been provided to Respondent.

8. Collect four samples following disinfection of the aircraft water system to confirm that the aircraft drinking water system is free of coliform bacteria contamination. The four samples shall include the tap where the initial positive sample was collected, one other lavatory tap, one other galley tap, and one other tap on the aircraft. If there are fewer than four sampling points on the aircraft, samples are to be collected from each available sampling point for a total of 400 ml. If there is only one sampling point on the aircraft a 400 ml sample is to be collected from that tap. Post-disinfection samples may be collected immediately after disinfection.

9. Send an e-mail or fax containing a copy of the laboratory report for all samples taken pre- and post-disinfection, the date of the disinfection took place, and whether the water was physically turned off and/or notification was provided shall be sent within 24 hours of receiving the set of negative total coliform sample results to the following persons or such successors as EPA shall designate:

Laurie Dubriel	202-564-0024	airlinedrinkingwater@epa.gov
Lourdes Bufill	202-564-0024	airlinedrinkingwater@epa.gov

10. If the aircraft has wholly separate water systems that do not interconnect providing water to different portions of the aircraft (*e.g.*, separate systems for the galley and lavatory), the abovementioned actions in 1 - 9 shall only be

implemented for the water system that had a total coliform positive sample result collected from it.

If Respondent elects to provide notification, the following notification shall be used in the lavatory when there is a total coliform positive, *E. coli* or fecal coliform negative sample result that affects that lavatory:

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were recently detected in a sample(s) collected from this aircraft and this was a warning of potential problems.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of coliform bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled water while onboard. Handwashing with soap and water is generally safe and advised, however, a waterless hand sanitizer has been provided for your convenience.

If Respondent elects to provide notification, the following notification shall be used in the galley and handouts when there is a total coliform positive, *E. coli* or fecal coliform negative sample result that affects that galley:

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were recently detected in a sample(s) collected from this aircraft and this was a warning of potential problems.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of coliform bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled beverages while onboard.

If Respondent elects to provide notification, the following notification shall be used in the lavatory when there is an *E. coli* or fecal coliform positive sample result that affects that lavatory:

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems. Fecal coliform or E. coli bacteria were recently detected in a sample(s) collected from this aircraft.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of fecal coliform and E. coli bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled water while onboard. Handwashing with soap and water is generally safe and advised, however, a waterless hand sanitizer has been provided for your convenience.

If Respondent elects to provide notification, the following notification shall be used in the galley and handouts when there is an *E. coli* or fecal coliform positive sample result that affects that galley:

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems. Fecal coliform or E. coli bacteria were recently detected in a sample(s) collected from this aircraft.

The water system on this aircraft has been or will be resampled and disinfected to ensure that the aircraft water system is free of fecal coliform and E. coli bacteria. In the meantime, if you are concerned or are immuno-compromised you may wish to request canned or bottled beverages while onboard.

Alternatively, an onboard announcement using the above-mentioned language may be made by the flight crew along with other safety announcements prior to the affected aircraft's departure in lieu of placards.

APPENDIX L: Protocol for Requests for Time Extensions in Monitoring Period II

If Respondent needs to request a time extension of the 24 hour time period in which resampling must occur in Monitoring Period II following any initial total coliform positive sample result, Respondent shall:

1. Contact one of the following EPA representatives, or such persons as EPA shall designate, during business hours (7:30 a.m. - 5:30 p.m. Monday through Friday Eastern Time) by telephone or e-mail the same day of the learning of the total coliform positive result:

Laurie Dubriel	202-564-4031	airlinedrinkingwater@epa.gov
Lourdes Bufill	202-564-5128	airlinedrinkingwater@epa.gov

2. Immediately, follow-up the communication (*i.e.*, telephone conversation, voice or e-mail) with an e-mail or fax to the EPA representative contacted explaining why a time extension is needed, the aircraft tail or nose number, date of the sample collection, current location of the aircraft, the sample result, a copy of the laboratory report, and disinfectant residual result. This information may be faxed to 202-564-0024. The requirements for the provision of a copy of a laboratory report in Appendix K apply here, except that the report must be provided in 24 hours instead of by 5 p.m. Eastern Time of the following business day. EPA will orally and/or by e-mail communicate whether the time extension is granted no later than three (3) hours from receiving the initial request for a time extension. If EPA does not respond within three (3) hours, it may be assumed that the time extension is automatically granted.

3. If notification of total coliform positive sample results is received from the laboratory after business hours Monday through Thursday, send one of the above listed EPA representatives the information required in 2 above by e-mail or fax the same day of being notified by the laboratory of the total coliform sample results, and follow-up that communication with a telephone call the next business day. EPA will orally and/or by e-mail communicate whether the time extension is granted no later than three (3) hours from receiving the follow-up telephone call. If a time extension is not granted, Respondent will be given 24 hours from the time when the extension was denied.

4. If Respondent is notified of a total coliform positive sample result between 5:30 p.m. Friday and 7:30 a.m. Monday Eastern Time, send one of the above listed EPA representatives the information required in 2 above by e-mail or fax the same day of being notified by the laboratory of the total coliform sample results, and follow-up that communication with a telephone call the next business day. An automatic time extension of 72 hours will be deemed as granted only if the

above mentioned information is submitted the same day of receiving the sampling results.

During the period of the time extension, the requirements for physically turning off the water and/or providing notification and a hand sanitizer as described in Appendix K still apply. Time extension of no more than 72 hours may be granted.

Time extensions may be granted for the following logistical reasons:

- The aircraft is outside of the United States;
- Weather conditions prevent transportation of the aircraft to a maintenance station;
- The laboratory error in reporting the sample results (*i.e.*, the wrong aircraft is identified);
- The nearest maintenance station cannot provide disinfection within 24 hours due to scheduling; or
- Other similar logistical reasons.

APPENDIX M: Notification of Changes to the Operating Fleet

The following form shall be submitted accompanied by the statement of certification in Appendix N when there are changes in the operating fleet.

Comair, Inc. is providing notice to the U.S. Environmental Protection Agency that aircraft <tail or nose number> with the serial number _____ is being [ ] removed [ ] added to the operating fleet beginning <date>. Aircraft <tail or nose number> is a <manufacturer, make, model> aircraft.

Aircraft <tail or nose number> that is being added to the operating fleet on <date> has:

<#> galleys
<#> lavatories
<#> drinking water intakes
<#> seats
<#> drinking water taps
<#> drinking water fountains
<#> <#> gallon tanks

This aircraft provides [ ] does [ ] does not provide food service. It also uses <type> filter in the lavatory/galley.

Aircraft <tail or nose number> that is being removed from the operating fleet on <date> is being [ ] retired [ ] stored [ ] sold to _____.

By _____
(Name)

_____
(Signature)

_____
(Title)

_____
(Date)

APPENDIX N: Statement of Certification

STATEMENT OF CERTIFICATION

I certify that the information contained in or accompanying this submission is true, accurate, and complete.

As to the identified portion(s) of this submission for which I cannot personally verify its truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting under my direct instructions, made the verification, that this information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

By_____
(Name)

_____
(Signature)

_____
(Title)

_____
(Date)