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13.0 Annexes

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CHAPTER 6A--PUBLIC HEALTH SERVICE

SUBCHAPTER II--GENERAL POWERS AND DUTIES

Part G--Quarantine and Inspection

Sec. 264. Regulations to control communicable diseases

(a) Promulgation and enforcement by Surgeon General

The Surgeon General, with the approval of the Secretary, is authorized to make and enforce such regulations as in his judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession. For purposes of carrying out and enforcing such regulations, the Surgeon General may provide for such inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated as to be sources of dangerous infection to human beings, and other measures, as in his judgment may be necessary.

(b) Apprehension, detention, or conditional release of individuals

Regulations prescribed under this section shall not provide for the apprehension, detention, or conditional release of individuals except for the purpose of preventing the introduction, transmission, or spread of such communicable diseases as may be specified from time to time in Executive orders of the President upon the recommendation of the National Advisory Health Council and the Surgeon General.

(c) Application of regulations to persons entering from foreign countries

Except as provided in subsection (d) of this section, regulations prescribed under this section, insofar as they provide

for the apprehension, detention, examination, or conditional release of individuals, shall be applicable only to individuals coming into a State or possession from a foreign country or a possession.

(d) Apprehension and examination of persons reasonably believed to be infected

On recommendation of the National Advisory Health Council, regulations prescribed under this section may provide for the apprehension and examination of any individual reasonably believed to be infected with a communicable disease in a communicable stage and (1) to be moving or about to move from a State to another State; or (2) to be a probable source of infection to individuals who, while infected with such disease in a communicable stage, will be moving from a State to another State. Such regulations may provide that if upon examination any such individual is found to be infected, he may be detained for such time and in such manner as may be reasonably necessary. For purposes of this subsection, the term ``State'' includes, in addition to the several States, only the District of Columbia.

(July 1, 1944, ch. 373, title III, Sec. 361, 58 Stat. 703; 1953 Reorg. Plan No. 1, Secs. 5, 8, eff. Apr. 11, 1953, 18 F.R. 2053, 67 Stat. 631; July 12, 1960, Pub. L. 86-624, Sec. 29(c), 74 Stat. 419; June 23, 1976, Pub. L. 94-317, title III, Sec. 301(b)(1), 90 Stat. 707.)

Sec. 269. Bills of Health

(a) Detail of medical officer; conditions precedent to issuance; consular officer to receive fees

Except as otherwise prescribed in regulations, any vessel at any foreign port or place clearing or departing for any port or place in a State or possession shall be required to obtain from the consular officer of the United States or from the Public Health Service officer, or other medical officer of the United States designated by the Surgeon General, at the port or place of departure, a bill of health in duplicate, in the form prescribed by the Surgeon General. The President, from time to time, shall specify the ports at which a medical officer shall be stationed for this purpose. Such bill of health shall set forth the sanitary history and condition of said vessel, and shall state that it has in all respects complied with the regulations prescribed pursuant to subsection (c) of this section. Before granting such duplicate bill of health, such consular or medical officer shall be satisfied that the matters and things therein stated are true. The consular officer shall be entitled to demand and receive the fees for bills of health and such fees shall be established by regulation.

(b) Collectors of customs to receive originals; duplicate copies as part of ship's papers

Original bills of health shall be delivered to the collectors of customs at the port of entry. Duplicate copies of such bills of health shall be delivered at the time of inspection to quarantine officers at such port. The bills of health herein prescribed shall be considered as part of the ship's papers, and when duly certified to by the proper
consular or other officer of the United States, over his official signature and seal, shall be accepted as evidence of the statements therein contained in any court of the United States.

(c) Regulations to secure sanitary conditions of vessels

The Surgeon General shall from time to time prescribe regulations, applicable to vessels referred to in subsection (a) of this section for the purpose of preventing the introduction into the States or possessions of the United States of any communicable disease by securing the best sanitary condition of such vessels, their cargoes, passengers, and crews. Such regulations shall be observed by such vessels prior to departure,

during the course of the voyage, and also during inspection, disinfection, or other quarantine procedure upon arrival at any United States quarantine station.

(d) Vessels from ports near frontier

The provisions of subsections (a) and (b) of this section shall not apply to vessels plying between such foreign ports on or near the frontiers of the United States and ports of the United States as are designated by treaty.

(e) Compliance with regulations

It shall be unlawful for any vessel to enter any port in any State or possession of the United States to discharge its cargo, or land its passengers, except upon a certificate of the quarantine officer that regulations prescribed under subsection (c) of this section have in all respects been complied with by such officer, the vessel, and its master. The master of every such vessel shall deliver such certificate to the collector of customs at the port of entry, together with the original bill of health and other papers of the vessel. The certificate required by this subsection shall be procurable from the quarantine officer, upon arrival of the vessel at the quarantine station and satisfactory inspection thereof, at any time within which quarantine services are performed at such station.

(July 1, 1944, ch. 373, title III, Sec. 366, 58 Stat. 705.)

Sec. 271. Penalties for violation of quarantine laws

(a) Penalties for persons violating quarantine laws

Any person who violates any regulation prescribed under sections 264 to 266 of this title, or any provision of section 269 of this title or any regulation prescribed thereunder, or who enters or departs from the limits of any quarantine station, ground, or anchorage in disregard of quarantine rules and regulations or without permission of the quarantine officer in charge, shall be punished by a fine of not more than $1,000 or by imprisonment for not more than one year, or both.

(b) Penalties for vessels violating quarantine laws

Any vessel which violates section 269 of this title, or any regulations thereunder or under section 267 of this title, or which enters within or departs from the limits of any quarantine station, ground, or anchorage in disregard of the quarantine rules and regulations or without permission of the officer in charge, shall forfeit to the United States not more than $5,000, the amount to be determined by the court, which shall be a lien on such vessel, to be recovered by proceedings in the proper district court of the United States. In all such proceedings the United States attorney shall appear on behalf of the United States; and all such proceedings shall be conducted in accordance with the rules and laws governing cases of seizure of vessels for violation of the revenue laws of the United States.

(c) Remittance or mitigation of forfeitures

With the approval of the Secretary, the Surgeon General may, upon application therefore, remit or mitigate any forfeiture provided for under subsection (b) of this section, and he shall have authority to ascertain the facts upon all such applications.

(July 1, 1944, ch. 373, title III, Sec. 368, 58 Stat. 706; June 25, 1948, ch. 646, Sec. 1, 62 Stat. 909; 1953 Reorg. Plan No. 1, Secs. 5, 8, eff. Apr. 11, 1953, 18 F.R. 2053, 67 Stat. 631.)

13.1.2 Title 42 Code of Federal Regulations

TITLE 42--PUBLIC HEALTH
CHAPTER I--PUBLIC HEALTH SERVICE,
DEPARTMENT OF HEALTH AND HUMAN SERVICES
PART 71--FOREIGN QUARANTINE

Subpart C--Notice of Communicable Disease Prior to Arrival
71.21 Radio report of death or illness.

(a) The master of a ship destined for a U.S. port shall report immediately to the quarantine station at or nearest the port at which the ship will arrive, the occurrence, on board, of any death or any ill person among passengers or crew (including those who have disembarked or have been removed) during the 15-day period preceding the date of expected arrival or during the period since departure from a U.S. port (whichever period of time is shorter).

(b) The commander of an aircraft destined for a U.S. airport shall report immediately to the quarantine station at or nearest the airport at which the aircraft will arrive, the occurrence, on board, of any death or ill person among passengers or crew.

(c) In addition to paragraph (a) of this section, the master of a ship carrying 13 or more passengers must report by radio 24 hours before arrival the number of cases (including zero) of diarrhea in passengers and crew recorded in the ship's medical log during the current cruise. All cases of diarrhea that occur after the 24 hour report must also be reported not less than 4 hours before arrival.

(Approved by the Office of Management and Budget under control number 0920-0134)

Subpart D--Health Measures at U.S. Ports: Communicable Diseases

Sec. 71.31 General provisions.

(a) Upon arrival at a U.S. port, a carrier will not undergo inspection unless the Director determines that a failure to inspect will present a threat of introduction of communicable diseases into the United States, as may exist when the carrier has on board individual(s) reportable in accordance with Sec. 71.21 or meets the circumstances described in Sec. 71.42. Carriers not subject to inspection under this section will be subject to sanitary inspection under Sec. 71.41 of this part.

(b) The Director may require detention of a carrier until the completion of the measures outlined in this part that are necessary to prevent the introduction or spread of a communicable disease. The Director may issue a controlled free pratique to the carrier stipulating what measures are to be met, but such issuance does not prevent the periodic boarding of a carrier and the inspection of persons and records to verify that the conditions have been met for granting the pratique.

Sec. 71.32 Persons, carriers, and things.

(a) Whenever the Director has reason to believe that any arriving person is infected with or has been exposed to any of the communicable diseases listed in paragraph (b) of this section, he/she may detain, isolate, or place the person under surveillance and may order disinfection or disinfestation as he/she considers necessary to prevent the introduction, transmission, or spread of the listed communicable diseases.

(b) The communicable diseases authorizing the application of sanitary, detention, and/or isolation measures under paragraph (a) of this section are: cholera or suspected cholera, diphtheria, infectious tuberculosis, plague, suspected smallpox, yellow fever, or suspected viral hemorrhagic fevers (Lassa, Marburg, Ebola, Congo-Crimean, and others not yet isolated or named).

(c) Whenever the Director has reason to believe that any arriving carrier or article or thing on board the carrier is or

may be infected or contaminated with a communicable disease, he/she may require detention, disinsection, disinfection, disinfestation, fumigation, or other related measures respecting the carrier or article or thing as he/she considers necessary to prevent the introduction, transmission, or spread of communicable diseases.

Sec. 71.33 Persons: Isolation and surveillance.

(a) Persons held in isolation under this subpart may be held in facilities suitable for isolation and treatment.

(b) The Director may require isolation where surveillance is authorized in this subpart whenever the Director considers the risk of transmission of infection to be exceptionally serious.

(c) Every person who is placed under surveillance by authority of this subpart shall, during the period of surveillance:

(1) Give information relative to his/her health and his/her intended destination and report, in person or by telephone, to the local health officer having jurisdiction over the areas to be visited, and report for medical examinations as may be required;

(2) Upon arrival at any address other than that stated as the intended destination when placed under surveillance, or prior to departure from the United States, inform, in person or by telephone, the health officer serving the health jurisdiction from which he/she is departing.

(d) From time to time the Director may, in accordance with section 322 of the Public Health Service Act, enter into agreements with public or private medical or hospital facilities for providing care and treatment for persons detained under this part.

(Approved by the Office of Management and Budget under control number 0920-0134)

[50 FR 1519, Jan. 11, 1985; 50 FR 3910, Jan. 29, 1985]

Sec. 71.34 Carriers of U.S. military services.

(a) Carriers belonging to or operated by the military

services of the United States may be exempted from inspection if the Director is satisfied that they have complied with regulations of the military services which also meet the requirements of the regulations in this part. (For applicable regulations of the military services, see Army Regulation No. 40-12, Air Force Regulation No. 161-4, Secretary of the Navy Instruction 6210.2, and Coast Guard Commandant Instruction 6210.2).

(b) Notwithstanding exemption from inspection of carriers under this section, animals or articles on board shall be required to comply with the applicable requirements of subpart F of this part.

Sec. 71.35 Report of death or illness on carrier during stay in port.

The master of any carrier at a U.S. port shall report immediately to the quarantine station at or nearest the port the occurrence, on board, of any death or any ill person among passengers or crew.

(Approved by the Office of Management and Budget under control number 0920-0134)

Subpart E--Requirements Upon Arrival at U.S. Ports: Sanitary Inspection

Sec. 71.41 General provisions.

Carriers arriving at a U.S. port from a foreign area shall be subject to a sanitary inspection to determine whether there exists rodent, insect, or other vermin infestation, contaminated food or water, or other insanitary conditions requiring measures for the prevention of the introduction, transmission, or spread of communicable disease.

Sec. 71.45 Food, potable water, and waste: U.S. seaports and airports.

(a) Every seaport and airport shall be provided with a supply of potable water from a watering point approved by the Commissioner of Food and Drugs, Food and Drug Administration, in accordance with standards established in title 21, Code of Federal Regulations, parts 1240 and 1250.

(b) All food and potable water taken on board a ship or aircraft at any seaport or airport intended for human consumption thereon shall be obtained from sources approved in accordance with regulations cited in paragraph (a) of this section.

(c) Aircraft inbound or outbound on an international voyage shall not discharge over the United States any excrement, or waste water or other polluting materials. Arriving aircraft shall discharge such matter only at servicing areas approved under regulations cited in paragraph (a) of this section.

Sec. 71.48 Carriers in intercoastal and interstate traffic.

Carriers, on an international voyage, which are in traffic between U.S. ports, shall be subject to inspection as described in Secs. 71.31 and 71.41 when there occurs on board, among passengers or crew, any death, or any ill person, or when illness is suspected to be caused by insanitary conditions.

13.2 Gastrointestinal Illness Surveillance System

13.2.1 Introduction

purpose

The following forms are provided as guides to standardize the collection of information required to assess the patterns of gastrointestinal illnesses and monitor for outbreaks aboard vessels. These forms are downloadable at the Vessel Sanitation Program Web site: http://www.cdc.gov/nceh/vsp.

13.2.2 Forms

Vessel Name:		Voyage number:		Dates	From: __/__/__	To: __/__/__	Page:		of	
Total number of passengers aboard:		Total number of ill passengers:		Total number of crew aboard:		Total number of ill crew:				

Date (mm/dd/yy)	Name (Last, First)	Age	M/F	Pax/Crew	Cabin No.	Pax Meal Seat / Crew Pos.	Illness Onset		Diarrhea			Vomiting		Fever		Abd. cramps	Headache	Myalgia	Stool specimens		Antidiarrheal Medications (Y/N)	Reportable case (Y/N)	Underlying illness (Specify)
																			Req.	Rec.			
							Date	Time	Y/N	#	Blood Y/N	Y/N	#	Y/N	°F	Y/N	Y/N	Y/N	Y/N	Y/N			

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Gastronintestinal Illness Surveillance System Questionnaire

U.S. PUBLIC HEALTH SERVICE 1798

(To be completed if you experienced gastrointestinal illness)

Vessel Name:		Voyage No. :		Date:	
Last Name:		First Name:			
Date of Birth:	(mm/dd/yyyy)	Age:	(in years)	Sex M / F	
Cabin Number:		Total Number of People in Cabin:			
Dining Seating:		Dining Table Number:			
Symptoms Started Date:	(mm/dd/yyyy)	Time:	(hh:mm)	AM / PM	

Do you know other people ill with the same symptoms?				Yes / No
If yes, please list their names:				
Did you stay overnight or longer in a boarding city before you joined the vessel?				Yes / No
If yes, where?	City:	State:	Country:	
Was the overnight stay in a hotel/motel/commercial residence?				Yes / No
If yes, what was the name and address of the hotel, motel/commercial residence Name: Address: City: State: Country:				
How did you travel to the city where you boarded the ship for this cruise? Select all that apply.				
[ ] Airplane	Airlines:		Flight No.:	
[ ] Automobile				
[ ] Bus/Motorcoach				
[ ] Train				
[ ] Other	Please specify:			
Are you a member of a tour group?				Yes / No
Prior to boarding the ship, did you participate in a pre-embarkation tour/package?				Yes / No
If yes, which tour(s)/package(s) did you participate in? (list all)				
Prior you your illness, did you go ashore at any of the ports of call?				Yes / No
If yes, please list the ports of call where you went ashore				
Did participate in any shore excursions at any port of call?				Yes / No
If yes, which shore excursions did you participate in? (list all)				
Did you eat anything while you were ashore at any port of call?				Yes / No
Did you drink anything (including drinks with ice) while ashore at any port of call?				Yes / No
What did you think is the cause of your illness?:				

PLEASE TURN THIS FORM OVER TO PROVIDE FOOD AND SHIPBOARD ACTIVITIES HISTORY

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

U.S. PUBLIC HEALTH SERVICE 1798

Last Name _____ First Name _____

Meals and Activities Aboard Vessel Prior to Illness

Please list the ***specific*** vessel locations of the meals you consumed and the vessel activities you participated in before you became ill

Day of illness onset **Give Date:** _____	**Day before illness onset**	**Two days before illness onset**	**Three days before illness onset**
Breakfast Place: _____ Time: _____ Items eaten/drank	**Breakfast** Place: _____ Time: _____ Items eaten/drank	**Breakfast** Place: _____ Time: _____ Items eaten/drank	**Breakfast** Place: _____ Time: _____ Items eaten/drank
_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____
Lunch Place: _____ Time: _____ Items eaten/drank	**Lunch** Place: _____ Time: _____ Items eaten/drank	**Lunch** Place: _____ Time: _____ Items eaten/drank	**Lunch** Place: _____ Time: _____ Items eaten/drank
_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____
Dinner Place: _____ Time: _____ Items eaten/drank	**Dinner** Place: _____ Time: _____ Items eaten/drank	**Dinner** Place: _____ Time: _____ Items eaten/drank	**Dinner** Place: _____ Time: _____ Items eaten/drank
_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____
Snack Place: _____ Time: _____ Items eaten/drank	**Snack** Place: _____ Time: _____ Items eaten/drank	**Snack** Place: _____ Time: _____ Items eaten/drank	**Snack** _____ Time: _____ Items eaten/drank
_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____
Activities	**Activities**	**Activities**	**Activities**
AM **PM**	**AM** **PM**	**AM** **PM**	**AM** **PM**
_____ _____ _____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____

13.3 Gastrointestinal Illness Surveillance System Reporting

13.3.1 Introduction
13.3.2 Procedures

13.3.1 Introduction

Operations Manual

The details of the Gastrointestinal Illness Surveillance data collection and notification system are contained in the *VSP Operations Manual* in Chapter 4.

Following are some sample itineraries of vessels that may call upon a U.S. port. The ports where the routine gastrointestinal illness surveillance report is required at least 24 hours before arrival, but not more than 36 hours, are marked with an ⇐.

sample itineraries

Itinerary A

Port Everglades, FL
at Sea
at Sea
St. Thomas, U.S. VI
Philipsburg, St. Maarten
at Sea
Nassau, Bahamas
Port Everglades, FL ⇐

Itinerary B

Vancouver, BC
at Sea
Juneau, AK ⇐
Ketchikan, AK
Sitka, AK
at Sea
Seward, AK
Vancouver, BC

Itinerary C

Barcelona, Spain
at Sea
at Sea
at Sea
St. Thomas, U.S. VI ⇐
at Sea
Port Everglades, FL
[Note: The report in this itinerary includes passengers and crew members during the 15 days prior to arrival in St. Thomas, U.S. VI.]

Itinerary D

Miami, FL
at Sea
St. Barthélemy, French W.I.
San Juan, PR ⇐
St. Thomas, U.S. VI
at Sea
Freeport, Bahamas
Miami, FL ⇐

13.3.2 Submission Procedures

telephone

fax

e-mail

website

The reports may be submitted as follows:

Telephone: 800-323-2132 or 954-356-6650

Fax: 954-356-6671

Electronic Mail: vsp-report@cuc.gov

Website (User ID and Password required):

http://wwwn.cdc.gov/vsp

telephone call required

A telephone notification to the Vessel Sanitation Program at the telephone numbers listed above shall accompany a special 2% report required when the vessel is within 15 days of expected arrival at a U.S. port, even when the special 2% report is submitted via fax, electronic mail or website.

13.4 Gastrointestinal Illness Outbreak Investigation

13.4.1 Introduction
13.4.2 Objectives
13.4.3 Outbreak Investigation Procedures
13.4.4 Report
13.4.5 Gastrointestinal Illness Specimens
13.4.6 Food and Water Samples

13.4.1 Introduction

introduction

Outbreaks of gastrointestinal illness aboard cruise ships are relatively infrequent occurrences. Since implementation of the cooperative program between the cruise industry and the VSP, the outbreak rate on vessels each year has steadily declined.

vigilance

Ongoing vigilance and rapid outbreak detection and response is still warranted. Since so many people share the same environment, meals and water, disease can often spread quickly to passengers and crew members on the vessel and overwhelm the vessel's medical system. The fection can also continue unabated between cruises, if the proper inte ntions are not instituted.

consultation

An . utbreak of gastrointestinal illness occurs aboard a vessel when the number of cases are in excess of expected levels for a given time period. When the cumulative proportion of reportable cases of gastrointes'nal illness reaches 2% among passengers or 2% among crew, and the vessel is within 15 days of arrival at a U S. Port, the vessel shall submit a special report to VSP. This will provides an early opportunity for consultation to potentially avert more illness among passengers and crew members.

monitoring

In most instances, a 2% proportion of illness will not lead to an investigation aboard the vessel, but will provide the opportunity to discuss and monitor illness patterns, and collaboratively develop intervention strategies. Members of the VSP staff are available at anytime to discuss disease transmission and intervention questions.

investigation

Outbreaks of gastrointestinal illness aboard cruise ships are relatively infrequent occurrences. Since implementation of the cooperative program between the cruise industry and the VSP, the outbreak rate on vessels each year has steadily declined.

special circumstances

Under special circumstances, when an unusual gastrointestinal illness pattern or disease characteristic is found, an investigation may be conducted when the proportion of cases is less than 3%. These special circumstances may include a high incidence of illness in successive

cruises, unusual severity of illnesses or complications, or a large number of persons reporting the illness over a brief period of time.

rapid response

Conducting an outbreak investigation aboard a vessel demands a rapid, organized, and comprehensive response. Because of the turnover of passengers, and sometimes the crew members, the investigation must be rapid to be able to collect data needed to identify the cause.

collaboration

The investigation is a collaborative effort between the cruise line, the passengers and crew members aboard the vessel, and CDC. An organized plan drafted between the organizations and individuals involved, therefore, is crucial in conducting a successful investigation, a comprehensive effort that includes epidemiologic, environmental, and laboratory studies. Recommendations based on the success of the investigation can then be implemented to prevent a recurrence on the following cruise.

13.4.2 Objectives

objectives

The objectives of an investigation are to:

(1) Determine the extent of the gastrointestinal illness among passengers and crew;

(2) Identify the agent causing the illness;

(3) Identify risk factors associated with the illness; and

(4) Formulate control measures to prevent the spread of the illness.

13.4.3 Outbreak Investigation Procedures

contingency plan

The early stages of an investigation are usually coordinated aboard the vessel by the vessel's medical staff in cooperation with engineering staff and hotel staff. It is important to have a coordinated contingency plan in place on board the vessel before the need for plan implementation. All staff with a potential for involvement investigation should be familiar with the contingency plan.

periodic review

This preliminary preparation will assist the vessel with the necessary rapid implementation of investigation and response measures before the arrival of the VSP team. The outbreak contingency plan should be periodically reviewed to ensure it will still meet the vessel's needs in dealing with an outbreak.

specimens and samples

Timely collection of medical specimens and food and water samples are important in the disease investigative process. The proper materials and techniques for collection and preservation are a part of the planning.

It is important to periodically review these to make sure they are on hand and ready to use in the event they are needed.

ready to use

A list of recommended medical specimen and food sample collection supplies for investigating gastrointestinal outbreaks may be found in sections 13.4.5 and 13.4.6 of this annex. Vessels, with no medical staff aboard may choose to stock items 1-9 only unless there is a qualified staff member aboard, capable of performing venipuncture for collection of serum specimens.

useful information

In order to assist in the rapid evaluation of the extent of illness among passengers and crew, to identify the causative pathogen and associated risk factors, the VSP may request the following items:

(1) the gastrointestinal illness surveillance log for the duration of the current cruise;

(2) self-administered 72 hour food and activity questionnaires completed by cases;

(3) daily newsletters distributed to passengers;

(4) a complete list of food items and menus served to both crew and passengers for the 72 hour period before the peak onset of illness date of most cases; and

(5) a complete list of ship and shore activities of passengers for the cruise.

survey

Additionally, VSP may request distribution of a survey to all passengers and crew members. VSP will provide this survey to the vessel. Completed surveys should be held in the infirmary until collection by VSP staff for epidemiologic analysis.

interviews

Interviews with cases may also be useful for identifying the etiology and associated risk factors of an outbreak. When distributing the surveys, the medical staff should advise the cases that interviews may be requested when VSP arrives at the vessel.

13.4.4 Report

preliminary report

Following an outbreak investigation, a preliminary report of findings based on available clinical and epidemiologic information, environmental inspection reports of the investigation, and interim recommendations, will be presented to the master of the vessel. Based on preliminary findings, additional materials, including additional passenger and crew information, may be requested from the cruise line or the vessel and

follow-up studies may be undertaken, to address specific suspicions or concerns.

final report

The report presented to the master of the vessel will remain preliminary until more extensive epidemiologic and laboratory studies have been completed, and a final report containing summary recommendations has been distributed.

13.4.5 Gastrointestinal Illness Specimens

Gastrointestinal Illness Specimen Supplies

specimen supplies

(1) 20-50 wide-mouth plastic jars or specimen cups with screw caps for stool specimens;

(2) 20 plastic bags for storing specimen cups,

(3) Disposable medical gloves;

(4) Plastic disposable spoons for collecting stool

(5) 20 sterile bottles or tubes containing bacterial preservative and transport medium (e.g., Cary-Blair);

(6) Sterile swabs;

(7) Rectal swabs;

(8) Stool preservative medium for parasites;

(9) A large commercial roll of plastic wrap;

(10) Sterile phlebotomy supplies for obtaining serum specimens (needles, syringes, swabs);

(11) Sterile pipettes;

(12) 20 serum separator tubes (containing no anticoagulant [red tops]);

(13) 20 nunc tubes for serum separation;

(14) Shipping containers (for diagnostic specimens) and;

(15) Shipping container labels and markings (as required by current shipping regulations for diagnostic specimens).

Specimen Collection

specimen collection

It may be advisable to collect clinical specimens of stool, vomitus or serum from passengers and crew members with reportable cases of gastrointestinal illness. Timely notification of the vessel as to what samples and information will be required is essential. Collection of specimens for analysis for viruses, bacteria or parasites may be recommended depending upon the likely etiology of disease.

request procedures

It is recommended that specimens be requested from patients during clinical evaluation in the infirmary, or subsequent to infirmary visits by direct contact with or letter from medical staff. Individuals asked to provide specimens should each be provided with disposable gloves, 2 specimen cups, a disposable spoon, and plastic wrap. The following is suggested language for a letter to passengers for request of stool specimens as well as instructions to passengers and crew for collection of stool:

Request to Passengers for Stool Specimens

specimen request

The [U.S. Public Health Service /Name of Cruise Line/ Medical Department] is requesting stool specimens from some people who became ill with gastrointestinal illness on the cruise. Please give one cup to a friend who has recently become ill and use the other cup for yourself. Put your next bowel movement into the cup and return the cup to the hospital as soon possible so it can be refrigerated.

Patient Instructions

patient instructions

(1) Urinate into the toilet (if you feel the need).

(2) Wash and dry hands.

(3) Lift the toilet seat. Place sheets of plastic wrap over the toilet bowl, leaving a slight dip in the center. Place the toilet seat down. Pass some stool onto the plastic wrap. Do not let urine (if possible) or water touch the stool specimen.

(4) Using the spoon given to you, place bloody, slimy or whitish areas of the stool into the container first. Fill the cup at least 2/3 full, if possible.

(5) Tighten the cap.

(6) Wash hands.

(7) Label the specimen jar with your name, the date, and your cabin number.

Medical Staff Instructions

specimen labeling

Please ensure that each specimen is properly labeled with:

(1) Date of collection;

(2) Passenger or crew member name and date of birth (or a unique identifying number with a separate log linked to name and date of birth); and

(3) Notation on use of antidiarrheal or antibiotic medication.

collection, storage, and transport

Complete guidelines for collection and storage of specimens for viral, bacterial and parasite analysis are listed below, although it may not be necessary to implement all procedures during each investigation. Transport of specimens will be arranged in collaboration with VSP.

Guidelines for Collecting Fecal Specimens for Viral Diagnosis
(Modified from *MMWR*, 1990; 39, [RR-5];19.)

Stool for Viral Diagnosis

first 48 hours

(1) Collect stool specimens in the first 48 hours. Specimen collection should not await the results of epidemiologic and other investigations because delay will almost certainly preclude a viral diagnosis. If information gathered subsequently indicates that a viral etiology is unlikely, the specimens can be discarded.

bulk specimens

(2) Collect 10 diarrhea bulk specimens, if possible. Bulk specimens, enough to fill a large stool cup, are preferred. Serial specimens from persons with acute, frequent, high-volume diarrhea are particularly useful. The smaller the specimen and the more formed the stool, the lower the diagnostic yield. Rectal swabs are of little or no value in viral detection. Specimens from at least 10 ill persons should be collected to maximize the chance that a diagnosis can be made. The diagnostic yield is low when specimens from <10 persons are submitted.

storage temperature

(3) Store specimens at 4°C (40°F). Freezing may destroy the characteristic viral morphology that permits a diagnosis by electron microscopy.

prevent cross-contamination

(4) Special care must be taken to prevent cross-contamination of specimens during collection and transport because new amplification techniques are exquisitely sensitive.

Paired Serum Specimens for Viral Diagnosis

timing

(1) Acute-period serum specimens should be collected during the first 5 days of symptoms. The convalescent-period serum specimen should be collected during the third to sixth week after illness.

number

(2) Collect 10 pairs from ill persons (the same persons submitting stool specimens) and 10 pairs from well persons.

quantity

(3) Serum specimens from adults should be 10 mL and serum specimens from children should be 3 mL.

red top tubes

(4) Storage tubes containing no anticoagulant (tubes with red tops) should be used for collection.

processing

(5) If a centrifuge is available, centrifuge the specimen for 10 minutes and remove the serum using a pipette. If no centrifuge is available, the blood specimens can sit in a refrigerator until a clot has formed; remove the serum using pipettes, as above.

storage

(6) Place the serum into an empty nunc tube, label, then refrigerate. Do not freeze.

Other Specimens for Viral Diagnosis

water, food, and environmental samples

Viruses causing gastroenteritis cannot routinely be detected in water, food, or environmental samples. Viruses have been successfully detected in vomitus specimens. These should be collected and sent using same methodology as for stool specimens.

Guidelines for Collecting Fecal Specimens for Bacteriologic Diagnosis

media temperature

(1) Before use, the transport media should be stored in a refrigerator or at room temperature. If the transport media is stored at room temperature, it should normally be chilled for 1 to 2 hours by refrigeration before use.

rectal swabs

(2) At least 2 rectal swabs or swabs of fresh stools should normally be collected for bacterial analysis and placed in refrigerated Cary-Blair transport media.

methodology

(3) It is recommended that the swabs be inserted initially into the transport media to moisten, then inserted about 1 to 1-1/2 inches into the rectum, gently rotated, and removed for insertion individually into the same tube of transport media.

visible fecal material

(4) If possible, there should be visible fecal material on the swabs.

place both in same tube

(5) Both swabs should be inserted into the same tube of media and the swabs pushed completely to the bottom of the tube.

break off stick

(6) The top portion of the stick touching the fingers should be broken off and discarded.

refrigerate specimens

(7) Refrigeration during transport may be accomplished by shipping in an insulated box with frozen refrigerant packs. The specimens shall never be frozen during storage or transport.

Guidelines for Collecting Fecal Specimens for Parasite Diagnosis

parasite specimens

In the event a disease of parasitic etiology is suspected, arrangements for shipment of appropriate specimen containers containing 10% formalin and PVA (polyvinyl-alcohol) will be made.

A summary table with instructions for collecting clinical specimens during outbreaks to test for bacteria, viruses and parasites is available at http://www.cdc.gov/foodborneoutbreaks/guide_sc.htm.

13.4.6 Food and Water Samples

Food and Water Sample Collection Kit

food sample kit

A recommended food and water sampling kit would include:

sample containers

(1) Sterile sampling containers (15 or more sealable plastic bags and wide-mouth screw top jars; 15 water sample bottles with sodium thiosulfate solution to provide concentration of 100 mg per mL of sample volume; foil or heavy wrapping paper);

collection tools

(2) Sterile specimen collection devices (spoons, tongs, scoop, knife, scissors, swabs and pipettes);

disinfection agents

(3) Disinfection agents (sanitizing solution, 95% ethyl alcohol and propane torch); and

support equipment

(4) Support equipment (plastic gloves, plastic container liners for iced samples, water-proof marking pen for sample identification; roll of adhesive or masking tape; labels; waterproof cardboard tags with ties; insulated ice chests; frozen refrigerant packs).

Food and Water Sampling Procedures

sample plan

Environmental sampling should be directed towards suspect food and sources identified by the preliminary epidemiologic investigation.

aseptic techniques

Food and water samples should be collected using aseptic techniques. Washed and gloved hands and sterile sampling utensils and containers protect the integrity of the sample during collection. Water taps used for collection of water should be sterilized with heat or chemicals and then sample should be collected after a minute of flow time.

sample amount

Approximately 200 grams or 200 mL of sample will usually suffice for the laboratory analytical requirements. Carefully squeeze most of the air out of bag before sealing food samples.

sample identification

Sample numbers should be assigned on each collection container and recorded on a sample log that will accompany samples to the laboratory. Information that identifies the date, time, and location of collection, product information, codes, storage conditions and temperatures for each sample should be recorded on the sample log. Include contact information for the person in charge of collecting the samples on the vessel.

sample temperatures

Food and water samples should be held below 5°C (41°F), but not frozen. Sufficient frozen refrigerant packs should be used to maintain cold sample temperatures during transport to the laboratory.

13.5 Disinfection Calculations for Water and Equipment

13.5.1 Introduction

13.5.2 Water Chlorination

13.5.3 Equipment Disinfection

13.5.4 Tables

13.5.1 Introduction

Potable water systems and equipment, swimming pools, and whirlpool spas on a vessel may need to be disinfected when there is a possibility of contamination and as a routine part of maintenance. This annex provides tables for calculating the amount of chlorine to be used in emergency chlorination of potable water and for the routine disinfection of potable water systems and equipment, swimming pools, and whirlpool spas.

13.5.2 Water Chlorination

Tables 1 and 2 are for calculating the amount of chlorine to be used in the disinfection of potable water systems, swimming pools, and equipment.

Amounts of chlorine compound shown in:
Table 1 are in GRAMS
Table 2 are in KILOGRAMS.

The "Chlorine Compound" column in Tables 1 and 2 refers to the amount of available chlorine in the compound as stated on the product label. Requirements varying from those shown in the table, for example metric tons of water, available chlorine compounds, or final chlorine concentrations, may be extrapolated.

For example, potable water tanks or fresh water tanks shall be superchlorinated to at least 50 mg/L (ppm) available chlorine when samples taken from these tanks indicate potential contamination with fecal coliform bacteria.

The total amount of 70% chlorine compound required to obtain 50 mg/L (ppm) in 166 metric tons of water is calculated in Example 1. The following example illustrates how to use the tables:

The capacity of a potable tank from which a coliform-positive sample was obtained is 166 metric tons. The vessel has a compound on board containing 70% available chlorine. Using the 70% column in Table 1, detailed in Example 1 below, the amount of chlorine required for 50 ppm is determined as follows:

Follow the "Metric Tons" column stopping at 100 and then proceed across this row until you reach the "50 ppm" column. The amount of chlorine required for 100 tons of water at 50 ppm is 7,150 grams. Do the same for 50, 10, 5, and 1 metric tons. Now total each column.

Example 1. Amount of 70% chlorine compound required for 166 tons of water at 50 parts per million

Metric Tons of Water	**Grams Required 70% Available Chlorine Solution**
	50 ppm column from Table 1
100	7,150.0
50	3,575.0
10	715.0
5	357.5
1	71.5
166 **Total Weight Water**	11,869.0 **grams** or 11.87 **kilograms**

13.5.3 Equipment Disinfection

Figure 1 lists the various chlorine compounds and the amount of the compound required in grams per liter of water to produce a solution containing 100 ppm of chlorine. The 100 ppm chlorine solution should be applied as outlined in this manual.

Figure 1. Available chlorine in compounds

Grams per Liter of Available Chlorine	Grams per Liter for 100 ppm
70%	0.143
65%	0.154
25%	0.4
15%	0.7
10%	1.0
5%	2.0

13.5.4 Tables

Table 1. Amount of Chlorine Required in GRAMS to Produce Desired PPM (mg/L)

Chlorine Compound	Metric Tons of Water	PPM Desired					
		1	2	5	10	50	100
70%	1	1.43	2.86	7.15	14.30	71.50	143.00
	5	7.15	14.30	35.75	71.50	357.50	715.00
	10	14.30	28.60	71.50	143.00	715.00	1,430.00
	50	71.50	143.00	357.50	715.00	3,575.00	7,150.00
	100	143.00	286.00	715.00	1,430.00	7,150.00	14,300.00
65%	1	1.54	3.08	7.70	15.40	77.00	154.00
	5	7.70	15.40	38.50	77.00	385.00	770.00
	10	15.40	30.80	77.00	154.00	770.00	1,540.00
	50	77.00	154.00	385.00	770.00	3,850.00	7,700.00
	100	154.00	308.00	770.00	1,540.00	7,700.00	15,400.00
25%	1	4.00	8.00	20.00	40.00	200.00	400.00
	5	20.00	40.00	100.00	200.00	1,000.00	2,000.00
	10	40.00	80.00	200.00	400.00	2,000.00	4,000.00
	50	200.00	400.00	1,000.00	2,000.00	10,000.00	20,000.00
	100	400.00	800.00	2,000.00	4,000.00	20,000.00	40,000.00

Table 2. Amount of Chlorine Required in KILOGRAMS to Produce Desired PPM (mg/L)

Chlorine Compound	Metric Tons of Water	PPM Desired					
		1	2	5	10	50	100
15%	1	0.007	0.01	0.03	0.07	0.34	0.70
	5	0.035	0.07	0.17	0.35	1.70	3.50
	10	0.070	0.13	0.34	0.70	3.40	7.00
	50	0.350	0.65	1.70	3.50	17.00	35.00
	100	0.70	1.30	3.40	7.00	34.00	70.00
10%	1	0.01	0.02	0.05	0.10	0.50	1.00
	5	0.05	0.10	0.25	0.50	2.50	5.00
	10	0.10	0.20	0.50	1.00	5.00	10.00
	50	0.50	1.00	2.50	5.00	25.00	50.00
	100	1.00	2.00	5.00	10.00	50.00	100.00
5%	1	0.02	0.04	0.10	0.20	1.00	2.00
	5	0.10	0.20	0.50	1.00	5.00	10.00
	10	0.20	0.40	1.00	2.00	10.00	20.00
	50	1.00	2.00	5.00	10.00	50.00	100.00
	100	2.00	4.00	10.00	20.00	100.00	200.00

13.6 Food Cooking Temperature Alternatives

13.6.1 Introduction
13.6.2 Temperature-Time Alternatives

13.6.1 Introduction

Cooking, to be effective in eliminating pathogens, must be adjusted to a number of factors. These include the anticipated level of pathogenic bacteria in the raw product, the initial temperature of the food, and the food's bulk, which affects the time to achieve the needed internal product temperature. Other factors to be considered include post cooking heat rise and the time the food must be held at a specified internal temperature.

To kill microorganisms, food must be held at a sufficient temperature for the specified time. Cooking is a scheduled process in which each of a series of continuous time/temperature combinations can be equally effective. For example, in cooking a beef roast, the microbial lethality achieved at 121 minutes after it has reached 54°C (130°F) is the same lethality attained as if it were cooked for 3 minutes after it has reached 63°C (145°F).

Cooking requirements are based in part on the biology of pathogens. The thermal destruction of a microorganism is determined by its ability to survive heat. Different species of microorganisms have different susceptibilities to heat. Also, the growing stage of a species (such as the vegetative cell of bacteria, the trophozoite of protozoa, or the larval form of worms) is less resistant than the same organism's survival form (the bacterial spore, protozoan cyst, or worm egg).

Food characteristics also affect the lethality of cooking temperatures. Heat penetrates into different foods at different rates. High fat content in food reduces the effective lethality of heat. High humidity within the cooking vessel and the moisture content of food aids thermal destruction.

Heating a large roast too quickly with a high oven temperature may char or dry the outside, creating a layer of insulation that shields the inside from efficient heat penetration. To kill all pathogens in food, cooking must bring *all* parts of the food up to the required temperatures for the correct length of time.

The temperature and time combination criteria specified in Part 3-4 of this Code is based on the destruction of *Salmonellae*. This Part includes temperature and time parameters that provide "D" values (decimal log reduction values) that may surpass 7D. For example, at 63°C (145°F), a time span of 15 seconds will provide a 3D reduction of ***Salmonella* enteritidis** in eggs. This organism, if present in raw shell eggs, is generally found in relatively low numbers.

Other foods, fish, and meats that have not been ground or minced, including commercially raised game animal meat, specified as acceptable for cooking at this temperature and time parameter, are expected to have a low level of internal contamination. The parameters are expected to provide destruction of the surface contaminants on these foods.

13.6.2 Temperature-Time Alternatives

Chart 1 - Alternative Temperature Times for 68°C (155°F)

Minimum	
Temperature °C (°F)	Time
63 (145)	3 minutes
66 (150)	1 minute
70 (158)	< 1 second (instantaneous)

Chart 2 - Oven Type / Roasting Temperature

Oven Type	Oven Temperature Based on Roast Weight	
Still Dry	177°C (350°F) or more	121°C (250°F) or more
Convection	163°C (325°F) or more	121°C (250°F) or more
High Humidity[1]	121°C (250°F)	121°C (250°F)

1. Relative humidity greater than 90% for at least 1 hour as measured in the cooking chamber or exit of the oven; or in a moisture-impermeable bag that provides 100% humidity.

Chart 3 - Internal Roast Temperature and Holding Time

Temperature		Time in Minutes	Temperature		Time in Minutes[1]
°C	°F		°C	°F	
54	130	121	60	140	12
56	132	77	61	142	8
57	134	47	62	144	5
58	136	32	63	145	3
59	138	19			

[1] *Holding time may include postoven heat rise*

Chart 4 - Cooking Exemptions

Food	Provisions
Beef Steak -- Whole-Muscle, Intact	Steak is cooked on top and bottom to a surface temperature of 63°C (145°F) or above and color change is achieved on all surfaces.
Eggs, Fish, Molluscan Shellfish and Other Meats	Consumer information is provided as specified in 7.3.6.1.1; or a variance is granted as specified in 11.13 of the VSP Operations Manual.

Extracted from *Food Code*, Recommendations of the United States Public Health Service, 1999.

13.7 Warewashing Evaluation

13.7.1 Introduction
13.7.2 Machine Data Plates
13.7.3 Evaluation Procedures
13.7.4 Routine Monitoring

13.7.1 Introduction

13.7.1.1 Methodology Source

resources

The follcwing warewashing machine evaluation procedure was compiled from the NSF International (NSF) brochure Food Service: *Recommended Field Evaluation Procedures for Spray-Type Dishwashing Machines*, 1991, and *Food Code*, 1999. ANSI/NSF 3-1996, *Commercial Spray-Type Dishwashing and Glasswashing Machines* and the CDC / VSP Operations Manual should be consulted for recommended construction and operational parameters.

13.7.1.2 Recommended Evaluation Equipment

TMD

The following equipment to conduct warewashing evaluations is recommended:

maximum registering

(1) Thermocouple or thermistor temperature-measuring device for warewasher operational temperatures;

wax crayons

(2) Maximum registering temperature-measuring device or temperature-sensitive tapes for verifying hot water warewasher final rinse temperature, 73° C (160° F);

(3) Optional: Calibrated melting temperature wax crayons with melt points set at 82° C (180° F) and another at 91° C (195° F);

pressure gauge

(4) Pressure gauge, as applicable, for determining in-line pressure of hot water at injection point of warewasher in the 100-170 kilopascals (15-25 pounds per square inch) range;

chemical test kit

(5) Chemical test kits for different chemical sanitizer types used on the vessel;

flashlight

(6) Flashlight;

tape measure

(7) Tape measure; and

timing device

(8) Watch or stop watch.

calibrated

The temperature-measuring devices and pressure gauges shall be calibrated against standards to ensure reliable warewasher evaluations. The chemical test kits and temperature sensitive tapes shall be maintained as specified by their manufacturer to ensure accuracy.

mercury spills

Mercury-filled maximum registering temperature-measuring devices are subject to breakage and shall be carefully used during the evaluations. If they break, a through clean-up shall be performed before warewashing operations resume.

13.7.2 Machines Data Plates

data plate required

The required manufacturer's data plate shall be studied for correct operating parameters. If data plate indicates a flow pressure, the machine shall have a gauge or a gauge valve to measure it. If manufacturer's data plate does not state a flow pressure, the machine is not required to have a gauge or a gauge valve.

temperature requirements

The temperatures stated on the warewash machine data plate shall be considered minimums. Except for chemical sanitizing machines, the machine should not heat to more than 9°C (15°F) above its minimum temperatures to reduce steam buildup and baking food particles on the articles being washed. Differences will be noted on the tank temperatures when the pumps are activated and when they are not.

conform to ANSI / NSF 3 - 1996

The warewash machine temperatures shall conform to those specified in these guidelines for the specific type of machine. For those manufactured to different temperature standards, evidence shall be furnished that they at least conform to the minimum equivalent standards of ANSI/NSF 3-1996, *Commercial Spray-Type Dishwashing and Glasswashing Machines.*

13.7.3 Evaluation Procedures

13.7.3.1 Operating Procedures

prescraped / racked

(1) Dishes shall be properly prescraped and racked.

scrap trays

(2) The machine prewash "scrap trays" shall be clear of excessive soil and debris.

curtains / baffles

(3) The curtains and baffles on conveyor type machines shall be intact and in their proper position.

conveyor speed

(4) The conveyor speed and cycle times shall be set according to manufacturer's specifications.

overflow

(5) The overflow standpipe shall be installed, not blocked or leaking.

nozzles aligned

(6) The wash and rinse nozzles shall be properly aligned and provide a uniform spray pattern.

nozzles clear

(7) The wash and rinse nozzles shall be clear of obstructions.

manifolds repair

(8) The wash and rinse manifolds shall be in good repair, properly installed in the machine, and end caps installed.

heating elements

(9) The heating elements used in tanks shall not have mineral or other deposits on them.

strainer clear

(10) The rinse supply line strainer shall be clear of debris.

TMDs accurate

(11) The wash and rinse tanks, and final rinse manifold temperature-measuring devices shall be accurate to ±1.5 °C (± 3 °F).

pressure regulator

(12) The pressure regulator shall be functioning properly.

flow pressure

(13) The flow pressure shall be 100-170 kilopascals (15-25 pounds per square inch).

13.7.3.2 Temperature Evaluation

manufacturer's instructions

(1) The machine shall be installed and operated in accordance to the manufacturer's instructions.

warm-up

(2) The machine shall be run through at least two complete cycles before testing unless it has been operating just before the evaluation. On conveyor machines, this is accomplished by running at least two racks through the machine.

additional warm-up

(3) When minimum temperatures are not indicated on the machine-mounted temperature-measuring devices, additional pre-evaluation cycles may be run to determine, if higher temperatures are possible.

tank thermometer calibration

(4) Temperatures of the wash water and pumped rinse shall be taken directly from the tanks of the machines and compared against the machine mounted temperature-measuring devices. The evaluation temperature-measuring device probe shall be placed in the tank near the machine mounted temperature-measuring device probe, if possible.

sanitizing rinse TMDs

(5) A maximum registering temperature-measuring device, remote sensing thermocouple or nonreversible thermo-labels such as paper temperature-measuring devices that turn from silver to black or similar device shall be used to confirm the effectiveness of heat sanitization.

rinse exposure

(6) The maximum registering temperature-measuring device shall be attached in a vertical position in a rack that is exposed to the final sanitizing rinse spray at the approximate level of a plate. The nonreversible thermo-labels shall be attached to the center of a dry ceramic plate.

high wash / rinse temperature factor

(7) The effect of the temperatures of the wash water and pumped rinse shall be factored into the evaluation, if the tank thermometers indicate they are above 74°C (165°F). *The maximum-registering TMD may also be checked at the end of each part of the cycle to verify that the wash and rinse temperatures have not been in excess of 71°C (160°F).*

effective sanitization

(8) Effective sanitization shall be evaluated by noting one of the following:

In a mechanical operation, the temperature of the fresh hot water sanitizing rinse as it enters the manifold may not be more than 90 °C (194 °F), or less than:

(A) For a stationary rack, single temperature machine, 74 °C (165 °F); or

(B) For all other machines, 82 °C (180 °F).

(C) A utensil surface temperature of 71 °C (160 °F) as measured by an irreversible registering temperature indicator shall be achieved.

indirect methods

(9) The final rinse spray temperature may be indirectly evaluated by using a non-reversible thermo-labels attached to manifold or by using a calibrated melting temperature wax crayons. A mark is made on a dry portion of the final sanitizing rinse manifold or supply line with a crayon that melts at 82 °C (180 °F) and another that melts at 91 °C (195 °F).

13.7.3.3 Chemical Sanitizing Evaluation

chemical sanitizing

Obtain sample at end of the final chemical sanitizing rinse cycle, and use a sanitizer test kit to confirm sanitizer level is at minimum specified on machine data plate and in these guidelines.

13.7.4 Routine Monitoring

periodic detailed evaluations

Proper warewashing is critical to protecting the health of a vessel's passengers. The procedures provided in this annex may assist the vessel crew in periodically verifying the proper operation of its warewashing machines. Following the manufacturer's recommendations for maintenance and operation will ensure the warewashing machines continue to meet the criteria of these guidelines and standards of ANSI/NSF 3-1996, *Commercial Spray-Type Dishwashing and Glasswashing Machines*.

start-up evaluations

During each warewashing machine's startup, the proper setup and operation of the equipment should be verified with basic checks. These would include checks of the tank, manifold, and curtain assemblies to ensure they are properly installed. Proper operating temperatures should be verified to meet the minimum required temperatures during the start-up.

routine operation evaluations

Periodic operation and temperature checks by the warewashing crew during the warewashing time should detect problems soon after they occur. The person removing the clean and sanitized ware must examine each piece to determine if it is clean. Periodic management checks of the warewashing process during operation verify that the machines are operating properly and the utensils processed are indeed clean and sanitized.

simple records

Simple records can assist in the warewash machine monitoring process. A review of these records can ensure proper monitoring is being conducted and assist in determining a gradual or severe malfunction of the machine.

13.8 Inspection Report

13.8.1 Report Form

The copy of the VSP Inspection Report form follows on the next pages

During the implementation of the VSP Operation Manual, an electronic version of this form will also be used. Copies of the electronic version will be returned to the cruise line by electronic mail.

CDC
SAFER·HEALTHIER·PEOPLE™

VESSEL SANITATION INSPECTION REPORT

Vessel Name	Inspection Date		Port	Results Presented to	Score:
Cruise Line	No. Pax.	No. Crew	Inspection Type	Inspected by	

Item No.	Point Value	Description — **Bold = Critical Item**
DISEASE REPORTING		
01	4	**Disease reporting**
02	1	Medical logs maintenance
POTABLE WATER		
03	5	**Bunker / production source; Halogen residual**
04	5	**Distribution system halogen residual**
05	5	**Distribution system halogen analyzer calibrated**
06	2	Halogen analyzer chart recorder maintenance, operation, records; Micro sampling, records
07	3	**System protection cross-connections, backflow; Disinfection**
08	1	Filling hoses, caps, connections, procedures; Sample records, valves; System construction, maintenance
SWIMMING POOLS, SPAS		
09	3	**Swimming pools / spas halogen residuals**
10	1	Swimming pools / spas maintenance, safety equipment
FOOD SAFETY		
PERSONNEL		
11	5	**Food handlers infections, communicable diseases**
12	4	**Hands washed; Hygienic practices**
13	3	**Management, knowledge, monitoring**
14	1	Outer clothing clean; Jewelry, hair, hand sanitizers
FOOD		
15	5	**Food source, sound condition; Food re-service**
16	5	**Potentially hazardous food temperatures**
17	2	Temperature practices; Thawing
18	3	**Cross-contamination**
19	2	Food protection; Original containers; labeling; In-use food dispensing, preparation utensils
MEDICAL LOG REVIEW		

Cruise – Start / End / Port / PAX / ILL / CREW / ILL

1.
2.
3.
4.
5.

Item No.	Point Value	Description — **Bold = Critical Item**
EQUIPMENT		
20	2	PHF temperature maintenance facilities; Food-contact surfaces; Food TMD's
21	1	Nonfood-contact surfaces; Ambient TMD's
22	2	Warewashing facilities; TMD's; Test kits
23	2	Pre-wash; Wash and rinse solutions
24	3	**Sanitizing rinse**
25	1	Wiping cloths / chef's towels
26	3	**Food-contact surfaces equipment / utensils clean; Safe materials**
27	1	Non-food contact surfaces equipment / utensils clean
28	2	Equipment / utensil / linen / single / service storage handling dispensing ; Cleaning frequency
TOILET AND HANDWASHING FACILITIES		
29	3	**Facilities convenient, accessible, design, installation**
30	1	Hand cleanser, sanitary towels, waste receptacles. Handwashing signs; Maintenance
TOXIC SUBSTANCES		
31	5	**Toxic Items**
FACILITIES		
32	1	Solid waste containers
33	1	Decks / bulkheads / deckheads
34	1	Plumbing fixtures / supply lines / drain lines / drains
35	2	Liquid waste disposal
36	1	Lighting
37	1	Rooms / equipment venting
38	1	Unnecessary articles, cleaning equipment; Unauthorized personnel
ENVIRONMENTAL HEALTH		
39	3	**IPM program effective; Approved pesticide application**
40	1	IPM procedures; Outer openings protection
41	2	Housekeeping; Child-Activity Centers

Comments:

13.9 Corrective Action Statement

13.9.1 Introduction

13.9.2 Format

13.9.1 Introduction

purpose

VSP has established a procedure for post-inspection reporting of corrective action to encourage the correction of deficiencies noted during an inspection. A signed corrective action statement shall not affect the inspection score.

critical item monitoring

The corrective action statement, particularly for critical items, should include a management monitoring plan to ensure that the procedure or process found out of control will be monitored and controlled in the future. The public health goal of the inspection is to prevent the recurrence of the critical deficiency in the specific instance where it was found and generally in future similar operations aboard the vessel.

publicly available

The corrective action statement shall be appended to the final inspection report for future reference and public distribution, if requested.

e-mail submission

The corrective action statement may be submitted to VSP by electronic mail. Please send it to vsp@cdc.gov and include your vessel name, corrective action statement and inspection date on the message subject line. It is preferable that the corrective action statement be submitted as an attached word processing format file.

mail submission

The corrective-action statement may also be mailed to:

CDC / Vessel Sanitation Program
1850 Eller Drive - Suite 101
Ft. Lauderdale, FL 33316
USA

13.9.2 Format

example statement

Date

CDC / Vessel Sanitation Program
1850 Eller Drive - Suite 101
Ft. Lauderdale, FL 33316
USA

Dear Sir:

The following actions have been taken to correct each of the deficiencies noted during the inspection of (Name of Vessel) on (Date), at (Port).

Item Number Deficiency / Corrective Action

1.

2.

3.

(Continue list until all violations have been listed.)

Sincerely,

(Signature)

Name
Title
Company

13.10 Summary of Sanitation Inspections of International Cruise Ships

13.10.1 Introduction
13.10.2 Format
13.10.3 Contact Information

13.10.1 Introduction

introduction

Every vessel that has a foreign itinerary and that carries 13 or more passengers is subject to twice-yearly inspections and, when necessary, to re-inspection by the Centers for Disease Control and Prevention (CDC). To ensure a clean and healthful environment, cruise ships must meet the criteria established by CDC.

The score and the complete inspection report for each inspection are published on the CDC website.

The ship's level of sanitation is acceptable to CDC if its score on the inspection is 86 or higher.

The website address for these scores and inspection reports is: http://www.cdc.gov/nceh/vsp.

13.10.2 Format

online information

The VSP website has a searchable database of inspection report summaries and lists. The complete inspection report information is also retrievable.

lists

Lists

Some of the lists available on the VSP website include:

- Summary of Most Recent Ships Inspected;
- Ships Inspected within Past 2 Months;
- Ships with Not Satisfactory Scores (under 86); and
- Summary of Inspection Scores (Green Sheet) .

These lists show the data by:

- Ship Name;
- Inspection Date; and
- Score.

complete report available

Further information can be obtained on a particular ship, including all scores for that ship and a inspection report preview.

The Summary of Inspections with Violations is provided on the VSP website. This report provides a categorical review of the deficiencies noted along with the number of points deducted for that category and the numerical score for the inspection.

The details of the inspection with the specific deficiencies and recommendations are also accessible from this page.

Search

search possibilities

The inspection report data is also searchable from this database within the following search categories:

- Ship Name;
- Inspection Date;
- Most Recent Date;
- All Dates;
- Range of Dates; and
- Score.

Score Categories include:

- All;
- 86 or higher -- Satisfactory Scores; and
- 85 or lower -- Not Satisfactory Scores.

search result sorts

The search results may be sorted by:

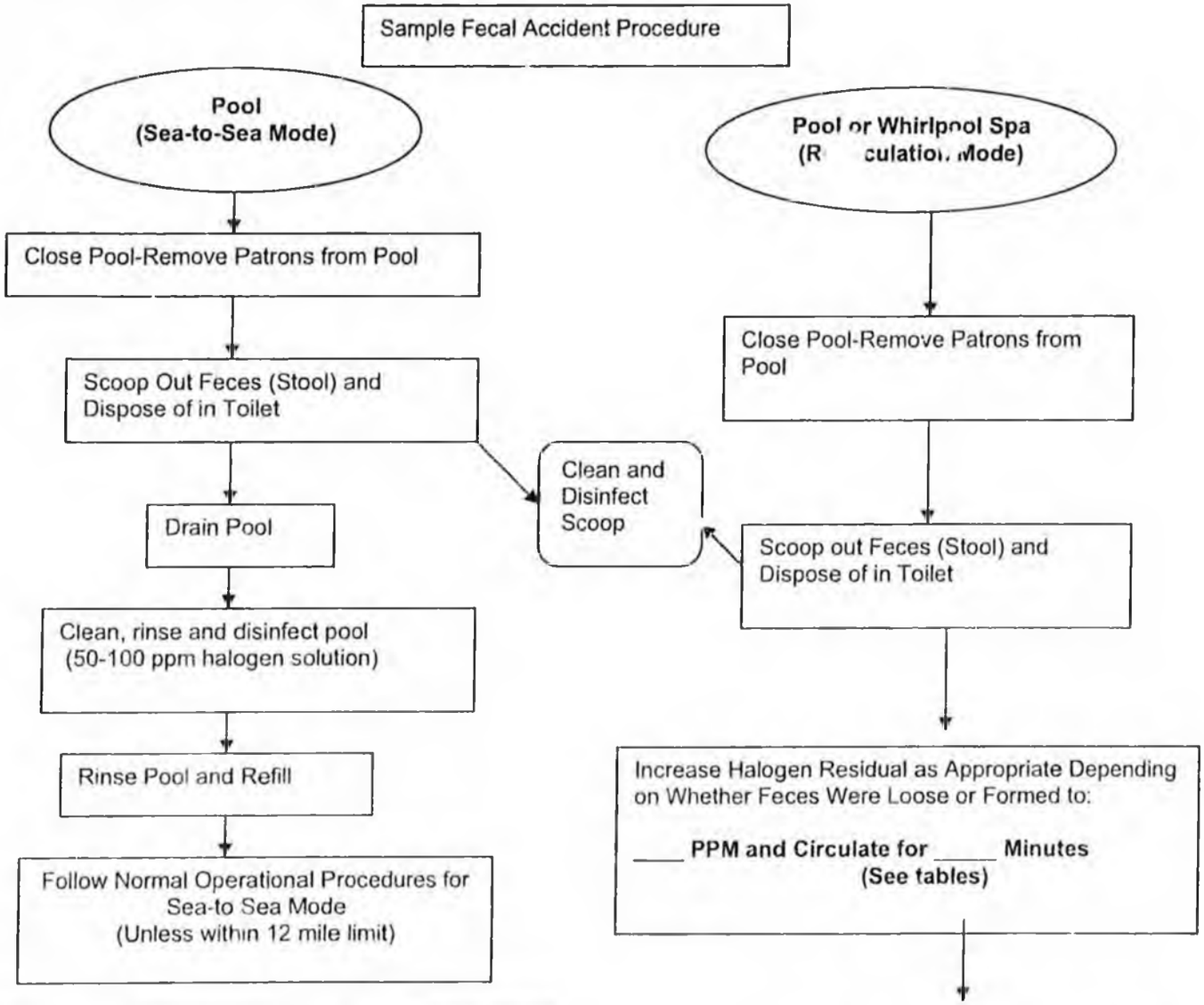
- Inspection Date (most recent first);
- Ship Name (alphabetical);
- Score (high-low); and
- Score (low -high).

13.10.3 Contact Information

further information

Further information on the Vessel Sanitation Program and the inspection results and the vessel's corrective action statements maybe obtained through electronic mail at: vsp@cdc.gov, by telephone at 800-323-2132, via fax at 770-488-4127 or on the VSP Web site at www.cdc.gov/nceh/vsp.

13.11 Fecal Accident Plan



Residual and Contact Time Table Loose Stool

Chlorine Residual mg/l or PPM	Time Minutes (Hours)
10	960 (16)
20	480 (8)
50	192 (3.5)
100	96 (1.5)

Residual and Contact Time Table Formed Stool

Chlorine Residual mg/l or PPM	Time Minutes
2	25

NOTE: Maintain pH of 7.2-7.5 during contact time. Take samples from inside pool/spa at three locations to ensure proper mixing.

Record fecal accidents in maintenance logs.

14.0 Bibliography

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14.11 Administrative Guidelines

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14.2 Authority

The Public Health Service Act, 42 U.S.C. Section 264. Quarantine and Inspection - Regulations to control communicable diseases.

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Code of Federal Regulations 42 CFR 71.31. Health Measures at U.S. Ports: Communicable Diseases. General provisions.

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The *Food Code* makes frequent reference to federal statutes contained in the United States Code (USC) and the *Code of Federal Regulations* (CFR). Copies of the USC and CFR can be viewed and copied at government depository libraries or may be purchased as follows.

(A) Viewing and Copying the USC or CFR

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(b) The U.S. House of Representatives
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Superintendent of Documents (New Orders)
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250-7954
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