COAST GUARD
Food Service Practical Handbook

COMDTPUB P4061.4

U.S. Department of Homeland Security
United States Coast Guard

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COMDTPUB P4061.4
OCTOBER 2, 2009

COMMANDANT PUBLICATION P4061.4

Subj: COAST GUARD FOOD SERVICE PRACTICAL HANDBOOK

Ref: (a) Coast Guard Health Promotion Manual, COMDTINST M6200.1 (series)
(b) Weight Management Self-Help Guide, COMDTPUB P6200.3
(c) Food Service Sanitation Manual, COMDTINST M6240.4 (series)
(d) Coast Guard Food Service Manual, COMDTINST M4061.5 (series)
(e) Simplified Acquisitions Procedures (SAP) Handbook, COMDTINST M4200.13 (series)

1. PURPOSE. This Publication provides guidance and recommendations for nutrition and health promotion, food service equipment and safety, load guides, healthy menu planning and composition, event planning, wardroom service and wardroom set-up and human resource and staffing considerations for all Coast Guard Food Service personnel in support of Coast Guard Dining Facilities (CGDF).

2. ACTION. Area, district, and sector commanders, commanders of maintenance and logistics commands, Commander Deployable Operations Group, commanding officers of headquarters units, assistant commandants for directorates, Judge Advocate General and special staff offices at Headquarters shall insure that the provisions of this Publication are followed. Internet release is authorized.

3. DIRECTIVES AFFECTED. None.

4. PROCEDURES. No paper distribution will be made of this Publication. Official distribution will be via the Coast Guard Directives System DVD. An electronic version will be located on the website located at CGWEB, http://cgweb2.comdt.uscg.mil/CGDirectives/Welcome.htm, WWW website, http://www.uscg.mil/directives and at CG CENTRAL, http://cgcentralweb.uscg.mil/cLink/00000118.

DISTRIBUTION – SDL No. 150

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NON-STANDARD DISTRIBUTION:

5. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS. Environmental considerations were examined in the development of this notice and have been determined not to be applicable.

6. FORMS /REPORTS. None.

MARK J. TEDESCO /s/
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RECORD OF CHANGES			
CHANGE NUMBER	**DATE OF CHANGE**	**DATE ENTERED**	**BY WHOM ENTERED**

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1. NUTRITION & HEALTH PROMOTION

Eating healthy, nutritious foods plays a critical role in mission readiness, mission effectiveness and mission execution for all United States Coast Guard (USCG) units. A Food Service Specialist (FS) is at the front line in providing the nutritional adequacy to sustain these important functions.

The Health Promotion Division, COMDT (CG-1111), provides the policy, guidance and direction for nutrition and healthy eating in the USCG. Collaborative efforts between Regional Health Promotion Managers (HPM), Unit Health Promotion Coordinators (UHPC) and FSs result in a responsible health promotion plan to meet the needs of each member.

1.1. Dietary Guidelines for Americans

Nutrition standards are based upon national standards, which include the Dietary Guidelines for Americans, published by the Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA), and the DASH (Dietary Approaches to Stop Hypertension) Eating Plan. The Dietary Guidelines are jointly issued and updated every five years to reflect advances in technology and medicine as well as an understanding of how food affects overall health and an increased knowledge of changing dietary needs. The guidelines were first issued in 1980 and were most recently revised in 2005. An overview is outlined in this chapter and can be accessed in it's entirety at http://www.healthierus.gov/dietaryguidelines/.

The new dietary guidelines were revised to provide Americans advice to promote a healthy lifestyle and carry ten basic messages:

a. Aim for a healthy weight

b. Be physically active every day

c. Let the Food Pyramid guide your food choices

d. Choose a variety of grains daily, especially whole grains

e. Choose a variety of fruits and vegetables daily

f. Keep food safe to eat

g. Choose a diet low in saturated fat and cholesterol and moderate in total fat

h. Choose beverages and foods to moderate your intake of sugars

i. Choose and prepare foods with less salt

j. Drink alcoholic beverages in moderation

1.1.1. Diseases

Major causes of morbidity and mortality in the United States are related to poor diet and a sedentary lifestyle. Specific diseases and conditions linked to poor diet and lack of physical activity include, but are not limited to:

a. Cardiovascular disease

b. Type II diabetes

c. Hypertension

d. Osteoporosis

e. Oral disease

f. Malnutrition

g. Certain cancers

A basic premise of the Dietary Guidelines is that nutrient needs should be met primarily through food consumption. Foods provide an array of nutrient and other compounds that may have beneficial effects on health. In some cases, fortified foods may be useful sources of one or more nutrients that otherwise might be consumed in less than the recommended amounts. Supplements may be useful when they fill a specific identified nutrient gap that cannot or is not otherwise being met by the individual's food intake. Nutrient supplements cannot replace a healthful diet. Individuals who are already consuming the recommended amount of a nutrient in food will not achieve any additional health benefit if also taking the nutrient as a supplement. In some cases supplements and fortified foods may cause intakes to exceed the safe levels of nutrients. Another important premise of the Dietary Guidelines is that foods should be prepared and handled in such a way that reduces risk of food borne illness.

1.2. DASH (Dietary Approaches to Stop Hypertension) Eating Plan

The DASH (Dietary Approaches to Stop Hypertension) Eating Plan makes it easier to consume less salt and sodium because it is rich in fruits and vegetables. The DASH eating plan is low in saturated fat, cholesterol and total fat, and emphasizes fruits, vegetables and low fat dairy foods. It also includes whole grain products, fish, poultry and nuts. It is reduced in red meat, sweets and sugar-containing beverages. It is rich in magnesium, potassium and calcium, as well as protein and fiber. Studies have shown that blood pressure can be lowered by following the DASH Eating Plan and reducing the amount of sodium consumed. Information about the DASH Eating Plan can be found at http://dashdiet.org/.

1.3. Food Guide Pyramid

The food guide pyramid is a visual representation of the Dietary Guidelines. The goal is to provide guidelines for a diet adequate in protein, vitamins, mineral and fiber without excessive amounts of calories, fat, saturated fat, cholesterol, sodium, added sugars and alcohol. The pyramid may be accessed at www.mypyramid.gov.

The number of servings from each level of the pyramid is dependent upon individual calorie requirements.

a. Grains. Make half your grains whole. The pyramid emphasizes whole grain and cereals as the base of a nutritious diet. Wheat, corn, oats and other grains have very little fat and are cholesterol free. These foods provide complex carbohydrates, an important source of energy. They also provide vitamins, mineral and fiber.

b. Vegetables. Vary your vegetables. Vegetables are naturally low in fat and contain no cholesterol. Vegetables are a good source of vitamins, especially A and C; fiber; folate; and minerals, such as iron and magnesium. Vegetables that are dark in color provide more nutrients. Starchy vegetables such as corn, peas and lima beans contain at least four times the calories than an equal quantity of a non-starchy vegetable such as broccoli or green beans (1/2 cup corn = 80 calories, ½ cup broccoli = 20 calories).

c. Fruits. Focus on fruits. Fruits are low in fat and are cholesterol free. Fruits and fruit juices provide important amounts of vitamins and minerals such as vitamins A, C and potassium. Whole fruits, especially fresh fruits with skins, provide fiber whereas fruit juice does not. Fruit juices should be consumed less often than fruit because they contain more calories than fruit. Only juices containing 100 percent fruit juice can count as a fruit serving. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up or pureed.

d. Milk. Get your calcium-rich foods. Milk products provide protein, vitamins and minerals. Milk, yogurt and cheese are the best dietary source of calcium, and are necessary for the formation of strong bones and teeth. Dairy products made from whole milk contain fat and cholesterol. Low fat and fat free options (i.e., 1% or fat free milk, low fat or fat free yogurt and reduced fat cheeses) are available and generally contain equal amounts of calcium. Lactose free products are also available.

e. Meat and Beans. Meat, poultry and fish supply protein, B vitamins, iron and zinc. Other foods in this group such as dry beans, eggs and nuts are similar to meats in providing protein and most vitamins and minerals. Most meat and poultry choices should be lean or low-fat. The average healthy young adult requires approximately 5 to 7 ounces of cooked lean meat, poultry or fish per day. For example, 6 ounces a day might come from: one (1) egg (equals one (1) ounce lean meat) for breakfast; two (2) ounces sliced turkey in a sandwich at lunch; and a three (3) ounce cooked hamburger for dinner. 2 1/2 – 3 ounces of lean beef, pork, lamb, poultry, or fish equals one serving. ½ cup of cooked beans, one (1) egg, two (2) tablespoons of peanut butter or 1/3 cup nuts equal one (1) ounce of meat. One (1) ounce of any protein provides seven (7) grams of protein.

   The meat and beans group is an excellent place to trim fat in the diet. Red meat does not need to be avoided; choosing 90% lean red meat with 10% fat is a good choice. Remove the skin from poultry; eat more fish, dry beans and peas. When cooking meats, broil, roast or braise instead of frying. Egg yolk is a concentrated source of cholesterol; therefore whole eggs should be consumed in moderation. Egg whites contain no cholesterol and can often be substituted for whole eggs in recipes.

f. Fats, Oils and Sweets. Use sparingly. Ensure most of your fat sources come from fish, nuts and vegetable oils. Limit solid fats like butter, stick margarine, shortening and lard. Check the Nutrition Fact labels on products to ensure they are low in saturated fats, trans-fats and

sodium. Choose foods and beverages that are low in added sugars. A low fat style of eating allows room for use of some fats and high fat foods in moderation. Consume less than 10 percent of calories from saturated fats and less than 300 mg/day of cholesterol, and keep trans fat (partially hydrogenated fats) consumption as low as possible. Total fat intake should be no more than 20 to 35 percent of calories with most fats coming from foods such as fish, nuts and vegetable oils.

1.4. USDA Food Guide

The USDA Food Guide below suggests amounts of food to consume from the basic food groups, subgroups, and oils to meet recommended nutrient intakes at 12 different calorie levels. Nutrient and energy contributions from each group are calculated according to the nutrient-dense forms of foods in each group (e.g., lean meats and fat-free milk). The table also shows the discretionary calorie allowance that can be accommodated within each calorie level, in addition to the suggested amounts of nutrient-dense forms of foods in each group. More information on eating patterns, food sources and nutrients may be found at http://www.health.gov/DietaryGuidelines/, Dietary Guidelines for Americans, 2005, Appendix A and Appendix B.

Daily Amount of Food From Each Group (vegetable subgroup amounts are per week)												
Calorie Level	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Food Group[1]	Food group amounts shown in cup (c) or ounce-equivalents (oz-eq), with number of servings (srv) in parentheses when it differs from the other units. See note for quantity equivalents for foods in each group.[2] Oils are shown in grams (g).											
Fruits	1 c (2 srv)	1 c (2 srv)	1.5 c (3 srv)	1.5 c (3 srv)	1.5 c (3 srv)	2 c (4 srv)	2 c (4 srv)	2 c (4 srv)	2 c (4 srv)	2.5 c (5 srv)	2.5 c (5 srv)	2.5 c (5 srv)
Vegetables[3]	1 c (2 srv)	1.5 c (3 srv)	1.5 c (3 srv)	2 c (4 srv)	2.5 c (5 srv)	2.5 c (5 srv)	3 c (6 srv)	3 c (6 srv)	3.5 c (7 srv)	3.5 c (7 srv)	4 c (8 srv)	4 c (8 srv)
Dark green veg.	1 c/wk	1.5 c/wk	1.5 c/wk	2 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk
Orange veg.	.5 c/wk	1 c/wk	1 c/wk	1.5 c/wk	2 c/wk	2 c/wk	2 c/wk	2 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk
Legumes	.5 c/wk	1 c/wk	1 c/wk	2.5 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3.5 c/wk	3.5 c/wk	3.5 c/wk	3.5 c/wk
Starchy veg.	1.5 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk	3 c/wk	3 c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	9 c/wk	9 c/wk
Other veg.	3.5 c/wk	4.5 c/wk	4.5 c/wk	5.5 c/wk	6.5 c/wk	6.5 c/wk	7 c/wk	7 c/wk	8.5 c/wk	8.5 c/wk	10 c/wk	10 c/wk
Grains[4]	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-eq
Whole grains	1.5	2	2.5	3	3	3	3.5	4	4.5	5	5	5
Other grains	1.5	2	2.5	2	3	3	3.5	4	4.5	5	5	5
Lean meat and beans	2 oz-eq	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	5.5 oz-eq	6 oz-eq	6.5 oz-eq	6.5 oz-eq	7 oz-eq	7 oz-eq	7 oz-eq
Milk	2 c	2 c	2 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
Oils[5]	15 g	17 g	17 g	22 g	24 g	27 g	29 g	31 g	34 g	36 g	44 g	51g
Discretionary calorie allowance[6]	165	171	171	132	195	267	290	362	410	426	512	648

1.5. Tips for Identifying Food Portions

Meat, Poultry, Fish (cooked)

3 ounces	= size of palm of a lady's hand (don't count fingers!)
	= amount in a sandwich
	= amount in a "quarter pounder" (cooked)
	= half chicken breast (3 inches across)
6 ounces	= restaurant split chicken breasts (6 inches across)
	= common luncheon or cafeteria portion
8 ounces	= common evening restaurant portion

Cheese

1 ounce	= 1 slice on sandwich or hamburger
	= 1 inch cube or 1 wedge airplane serving
1/2 cup	= 1 scoop cottage cheese

Salads

1 cup	= dinner salad
2-4 cups	= salad bar

Vegetables

1/2 cup	= cafeteria or restaurant portion
	= coleslaw or beans at a barbecue restaurant

Potato

1 small (3 oz)	= 80 calories	=	3 inches long = 1/2 cup
1 medium (6 oz)	= 160 calories	=	5 inches long
1 large (8 oz)	= 200 calories	=	6 inches long
1 huge (9 oz)	= 250 calories	=	6+ inches long = meal-in-one potato

Fruit

1 medium (3 inches across) fruit	=	60 calories
1 large fruit (apple, banana, pear)	=	120 calories

Fats

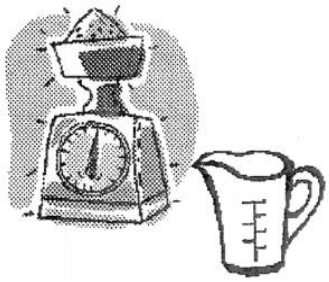
1 teaspoon margarine/butter	=	45 calories	=	1 pat
1 tablespoon mayonnaise	=	100 calories	=	typical amount on sandwiches
2 tablespoons dressing	=	160 calories	=	typical amount on a dinner salad
			=	1 small ladle (restaurant)
			=	1/2 large ladle (restaurant)

Ice Cream

1/2 cup (1 scoop)	= 4 ounces

Beverages

6 ounces	= typical juice portion
8 ounces	= common milk portion
4 ounces	= small glass of wine
12 ounces	= a can of beer or soft drink
1 1/2 ounces	= 1 jigger per alcoholic drink



...Every Bite Counts...

1.6. Nutrients – Macronutrients

Nutrients are required by the body in order to sustain life. During digestion, food is broken down into nutrients, which are absorbed into the bloodstream and carried to every cell in the body. Carbohydrates, proteins and fats are macronutrients, needed by the body in large amounts.

a. Protein. Protein is necessary to build and repair body tissues. The primary sources of protein include meat, fish, poultry, eggs, dairy product, nuts and legumes. Protein should comprise 15% of an individual's total caloric intake or approximately ½ gram of protein per pound of body weight. There are four (4) calories per gram of protein.

b. Carbohydrate. Carbohydrates are the main source of fuel or energy for the body. The primary sources of carbohydrates include whole grains, cereals, fruits, vegetables and simple sugars. Carbohydrates should comprise 55 – 60% of an individual's total caloric intake. The majority of these should be complex carbohydrates. There are four (4) calories per gram of carbohydrates.

c. Complex carbohydrates. Complex carbohydrates are composed of chains of smaller carbohydrate molecules (simple sugars). They are digested more slowly and provide the body with energy for a longer period of time than simple carbohydrates. They also provide valuable sources of fiber and nutrients. Sources include grains, legumes and starchy vegetables.

d. Simple carbohydrates. Simple carbohydrates are sugars such as glucose, sucrose (table sugar) and fructose. They are absorbed into the bloodstream very rapidly and provide a quick source of energy. Simple sugars provide few, if any nutrients, other than calories. Sources include table sugar, honey, jams and jellies, candy and skinless fruit.

e. Fat. Fats and oils are part of a healthy diet, but the type of fat makes a difference to heart health, and the total amount consumed is also important. Fat functions as a source of energy and as a vehicle to transport fat-soluble vitamins such as vitamins A, D, E and K and carotenoids. Fat should comprise no more than 20 to 35 percent of calories. There are nine (9) calories per gram of fat.

    1) Saturated fat. Excess saturated fats in the diet can lead to fatty deposits along the walls of vital arteries. These deposits can restrict or block the flow of blood leading to a heart attack or stroke. Saturated fats are generally solid at room temperature. Sources of saturated fats include meats, cheese, whole milk, butter, and some vegetable oils such as palm oil and coconut oil.

    2) Trans fat. May also be known as partially hydrogenated oils. Trans fats may be found in margarine, doughnuts, crackers, fried foods, baked goods and other snack foods. Scientific evidence shows that consumption of trans fats increases the risk of heart disease by raising low density lipoprotein (LDL) or bad cholesterol levels in the blood.

    3) Polyunsaturated/monounsaturated fat. These fats may help reduce the risk of heart disease when substituted for saturated fats in the diet. They are generally liquid at room temperature and are derived from plant sources. Polyunsaturated fats include safflower oil, corn oil, sunflower oil and soybean oil. Monounsaturated fats include peanut oil, canola oil and olive oil.

f. Cholesterol. Cholesterol is a fat-like substance produced by the body and also found in foods of animal origin. It does not contain any calories; however, excess dietary cholesterol may contribute to fatty deposits along the walls of vital arteries. Sources of cholesterol include meats, egg yolks, whole milk, whole milk cheeses and butter. There are two types of cholesterol found in the body, low density lipoprotein (LDL) and high density lipoprotein (HDL).

   1) LDL. Also known as "bad cholesterol." LDL builds up in the arteries and may lead to heart disease; the higher the level of LDL, the higher the risk of heart disease. To decrease the risk of elevated LDL in the blood, most members need to decrease their intakes of saturated fat and trans fats; many need to decrease their dietary intake of cholesterol. The recommended level of LDL cholesterol is <130 MG/DL or lower; less than 100 MG/DL is optimal.

   2) HDL. Also known as "good cholesterol." HDL levels of 60 MG/DL or higher in the blood may help to reduce the risk of heart disease. The recommended level of HDL cholesterol is 40 MG/DL or higher for men, 50 MG/DL or higher for women.

g. Fiber. Diets rich in dietary fiber have been shown to have a number of beneficial effects, including the decreased risk of coronary heart disease. There is also interest in the potential relationship between diets containing fiber-rich foods and lower risk of Type II diabetes. Fiber is not an actual nutrient since it does not supply any vitamins, minerals or calories. However, it does perform vital functions. The recommended dietary fiber intake is 14 grams per 1,000 calories consumed. There are two types of fiber.

   1) Soluble fibers. Soluble fibers dissolve in water and include pectins and gums. Sources include apples, bananas, dried beans, peas and oatmeal. Soluble fiber may help lower blood cholesterol levels.

   2) Insoluble fibers. Insoluble fibers do not dissolve in water and include cellulose and lignin. Sources include wheat bran, whole-wheat flour and fibrous material in fresh fruits and vegetables. Insoluble fiber aids in digestion and may prevent constipation.

1.7. Nutrients – Micronutrients

Vitamins and minerals perform a variety of specialized functions by the body. Compared with macronutrients, the body only requires vitamins and minerals in small amounts, hence the name micronutrients. Vitamins and minerals do not contain calories. Each nutrient has a specific and unique function to perform so it is important to consume a diet containing a variety of foods to ensure adequate intake of all nutrients. Vitamins are classified as either water-soluble or fat-soluble.

a. Water soluble. Water soluble vitamins dissolve in water and thus cannot be stored by the body. They must be replenished on a daily basis and are more fragile and may be washed out or destroyed in food preparation. Water soluble vitamins are vitamins B and C.

b. Fat soluble. Fat soluble vitamins must be transported throughout the body via fat and can be stored in body fat. An excess intake of fat soluble vitamins can be dangerous because they will be stored in the body and could prove toxic or cause serious negative effects in the body. Fat soluble vitamins are vitamins A, D, E and K.

1.8. Weight Management

Ideally, the goal for adults is to achieve and maintain a body weight that optimizes their health. Eating fewer calories while increasing physical activity are the keys to controlling body weight. While overweight and obesity are currently significant public health issues, not all members need to lose weight. Members at a healthy weight should strive to maintain their weight; underweight members may need to increase their weight.

Prevention of weight gain is critical, because while the behaviors required are the same, the extent of the behaviors required to lose weight makes weight loss more challenging than prevention of weight gain. Small decreases in calorie intake can help avoid weight gain, especially if accompanied by increased physical activity. For example, for most adults a reduction of 50 to 100 calories per day may prevent gradual weight gain, whereas a reduction of 500 calories or more per day is a common initial goal in weight-loss programs. Similarly, up to 60 minutes of moderate- to vigorous- intensity physical activity per day may be needed to prevent weight gain, but as much as 60 to 90 minutes of moderate-intensity physical activity per day is recommended to sustain weight loss for previously overweight people.

Some calorie-lowering strategies include eating foods that are low in calories for a given measure of food (e.g., many varieties of vegetables and fruits and some soups). However, when making changes to improve nutrient intake, one needs to make substitutions to avoid excessive calorie intake. The healthiest way to reduce calorie intake is to reduce the intake of added sugars, fats and alcohol, all which provide calories but few or no essential nutrients.

1.8.1. Key Recommendations:

a. Maintain body weight in a healthy range, balance calories from foods and beverages with calories expended.

b. Prevent gradual weight gain over time; make small decreases in food and beverage calories and increase physical activity.

For more information on weight management, see references (a) and (b).

1.9. Physical Activity

Regular physical activity and physical fitness make important contributions to a member's health, sense of well-being and maintenance of a healthy body weight. Maintenance of good physical fitness enables a member to meet the physical demands of work and leisure comfortable. Members with higher levels of physical fitness are also at lower risk of developing chronic diseases. Conversely, a sedentary lifestyle increases risk for overweight and obesity and many chronic diseases, including coronary artery disease, hypertension, type II diabetes and certain types of cancer. Just 30 minutes of moderate physical activity on most days provides some protective health benefits.

To prevent the gradual accumulation of excess weight in adults, approximately 60 minutes of moderate- to- vigorous- intensity physical activity on most days of the week may be needed to prevent unhealthy weight gain. While moderate-intensity physical activity can achieve the desired goal, vigorous-intensity physical activity generally provides more benefits. Control of caloric intake is also advisable.

Elevating the level of daily physical activity may also provide indirect nutritional benefits. A sedentary lifestyle limits the number of calories that can be consumed without gaining weight. The higher the member's physical activity level, the higher his or her energy requirements and the easier it is to plan a daily food intake pattern that meets recommended nutrient requirements.

a. Proper hydration is important when participating in physical activity. Drinking water is the best fluid in maintaining hydration. Consuming beverages containing caffeine may act as a mild diuretic and could lead to dehydration if consumed in large quantities. Any non-caffeinated beverage may be used towards hydration, but may add excess discretionary calories.

    1) Replacement approach. Food counts for approximately 20 percent of your total fluid intake, so if two (2) liters of water or other beverages a day (a little more than eight (8) cups) were consumed along with your normal diet, this typically replaces the fluids lost through normal body functions.

    2) Eight 8-ounce glasses of water a day. Another approach to water intake is the "8 x 8 rule" – drink eight 8-ounce glasses of water a day. This may also be stated "drink eight 8-ounce glasses of fluid a day," as all fluids count toward the daily total. Though the approach isn't supported by scientific evidence, many people use this basic rule as a guideline for how much water and other fluids to drink.

    3) Dietary recommendations. The Institute of Medicine advises that men consume roughly three (3) liters (about 13 cups) of total beverages a day and women consume 2.2 liters (about 9 cups) of total beverages a day.

b. Apart from the above approaches, if a person drinks enough fluid so that they rarely feel thirsty, the fluid intake is probably adequate.

1.9.1. Key Recommendations:

a. Engage in regular physical activity and reduce sedentary activities to promote health, psychological well-being and a healthy body weight.

b. Engage in at least 30 minutes of moderate-intensity physical activity on most days of the week to reduce the risk of chronic diseases.

c. Engaging in physical activity on most days of the week with vigorous intensity and longer duration provides greater health benefits.

d. To help manage body weight and prevent gradual, unhealthy weight gain, engage in approximately 60 minutes of moderate- to vigorous-intensity activity on most days of the week while not exceeding caloric intake requirements.

More information regarding the Coast Guard Health Promotion Program, weight management and physical fitness can be found at http://www.uscg.mil/worklife, "Health Promotion."

1.10. Collaboration between Food Service and Health Promotion Personnel

A working relationship between the FS and Health Promotion Personnel is essential for the successful implementation of health promotion initiatives, including healthy eating, weight compliance, and effective development of the Unit Health Promotion Plan.

Outcomes of a successful working relationship between the FS and Health Promotion Personnel include:

a. Healthy menu planning

b. Nutritional analysis and nutritional content of daily meals

c. Food portion recommendations

d. Menu recommendations for USCG personnel who are not weight compliant

e. Marketing nutrition programs including "5-A-Day"

f. Calculating daily caloric needs for individuals

1.10.1. Roles and Responsibilities

The roles and responsibilities of UHPCs, HPMs and FSs are outlined in reference (a). Below is a brief outline of these responsibilities as they relate to Food Service.

a. Role of the UHPC:

   1) Coordinate unit nutrition education training

   2) Provide guidance to personnel on USCG Weight Program

   3) Provide nutrition literature for display and distribution in the galley

   4) Recommend local resources such as weight watchers or other support programs, as well as online resources to members on the weight program.

   5) Assist personnel- especially those on the weight program- with developing daily meal plans IAW caloric needs and physical activity levels

b. Role of the HPM:

   1) Provide guidance for healthy cooking methods, menu planning, and nutritional analysis

   2) Direct contact, HPM visits to the galley, email, phone contact, newsletters

   3) Conduct unit training on nutrition and weight management issues upon request of UHPCs or FSs

   4) Provide educational resources (publications, audio visual materials, and so on) to FSs and UHPCs

   5) Provide training quotas for FS to attend annual UHPC “C” School

   6) Coordinate annual healthy cooking and nutrition training for FSs within the AOR- usually conducted as a hands-on course

   7) Include FSs on outreach information that is sent to UHPC’s

   8) Encourage FSs to develop monthly Healthy Choices and other focused menu planning that promotes healthy eating choices and experiences

   9) Coordinate monthly health promotion themes with menu planning:

      (a) Heart Health – February

      (b) National Nutrition Month – March

(c) Cholesterol Awareness Month – September

(d) National Cancers Awareness Months – various

(e) National Cholesterol Education Month - September

The USCG Health Promotion Program publishes reference (b) to assist members with weight management and healthy living. FSs are encouraged to use this publication to help educate galley patrons on a variety of topics including making healthy nutrition choices, determining daily calorie needs and making positive lifestyle choices.

2. FOOD SERVICE EQUIPMENT

This chapter provides a list of the most common equipment found in CGDFs and guidance/procedures for cleaning and maintenance. Dining facilities throughout the USCG are outfitted with a variety of food service equipment to meet their operational needs. The best source of information about how to use a piece of equipment, its safety features, and maintenance and cleaning requirements is the owner's manual and the operating instructions from the manufacturer of the equipment.

2.1. Overview

The following rules are meant for the safety of FS Personnel:

a. Before operating an unfamiliar piece of equipment, study the manufacturer's operating manual, or consult with someone who is familiar with the piece of equipment and has operated it recently.

b. Learn how to determine when a piece of equipment is not operating correctly. When equipment malfunctions, shut it down immediately, identify the equipment as being defective and report the malfunction to a supervisor.

c. Keep the equipment clean. If disassembly of the equipment is possible, consult the manufacturer's operating manual. If an operating manual is not available, consult with someone who has cleaned the equipment in the recent past.

d. Conserve energy by knowing the preheating time required by cooking equipment and by planning the production of food.

e. Know when it is more efficient to use manual means to prepare than to use the equipment.

NOTE: As a general rule, <u>never</u> use a piece of equipment until thoroughly familiar with its operation and features. <u>Always</u> refer to the owner's manual for operating, cleaning and maintenance instructions.

2.1.1. Common Equipment

The following is a list of common equipment found in a CGDF; this list is not all inclusive:

a. Walk-In Freezers/Reefers

b. Reach-In Freezers/Reefers

c. Ovens

d. Deep Fat Fryers

e. Tilt Skillets

f. Range Tops

g. Steam-Jacked Kettles

h. Food Mixers

i. Proof Boxes

j. Meat Slicers

k. Ice Machines

l. Food Processors

m. Steam and Electric Hot Food Tables

n. Heating Warming Lamps

o. Grills

p. Griddles

q. Toasters

r. Milk Dispensers

s. Carbonated Beverage Dispenser

t. Non-carbonated Beverage Dispenser

u. Soft Ice Cream Dispenser

v. Salad Bars

w. Coffee Makers

2.2. Basic Information on Cooking Tools, Equipment, Safety and Energy

Cooking tools and equipment are essential for preparing extraordinary foods and beverages; the kinds of meals that keep people coming back for more. Proper maintenance of cooking equipment will extend its longevity and service life. Conversely, improper maintenance and misuse can render the same equipment dangerous and a safety risk to its user. The cost of replacing poorly maintained and improperly used equipment is expensive, adding unnecessary costs of time and money for repair and use of electricity.

Equipment can burn, cut, or smash various parts of the body. Familiarization with all the features of the food service equipment is mandatory prior to use. FSs must be able to recognize the warning signs that equipment is not working properly, such as noise, scraping, smell, and so on. On-the-job training and practice will make create efficiency in operating equipment in a safe manner. Energy conservation and shorter preheating times for newer equipment negate the need to energize equipment at the beginning of the day and leave it on all day. Consult owner manuals for proper preheating times.

The following apply to tools and equipment:

a. They can be dangerous,

b. They vary by manufacturer and model,

c. They require cleaning as part of their use,

d. They are intended to save time, not replace the skills of the FS, and

e. They conserve energy.

2.3. Refrigerators

Refrigerated storage units must:

a. Be constructed in accordance with current National Sanitation Foundation (NSF) standards and bear the NSF seal,

b. Allow for the storage of items in such a way as to provide for adequate air circulation,

c. Be provided with thermometers mounted on the unit's exterior and another placed inside the unit,

d. Be equipped with a numerically scaled thermometer accurate to plus or minus 3 °F, located in the warmest part of the facility to measure air temperature and mounted where it can be easily read,

e. Be monitored and recorded using temperature logs with accurate entries being made daily,

f. Maintain potentially hazardous foods that require refrigeration at a temperature at or below 41 °F (5 °C), and

g. Have emergency escape latches on all doors to prevent trapping anyone inside.

2.3.1. Types of Refrigerators

Refrigerators come in two types: walk-in and reach-in.

a. **Walk-In Refrigerators**. Walk-in refrigerators provide for the cold storage of food items and do not allow for the storage of food items on the deck or less than six inches above the deck.

Example of a walk-in refrigerator:

b. **Reach-In Refrigerators**. Reach-in refrigerators have the same temperature requirements as walk-in refrigerators (they must maintain potentially hazardous foods that require refrigeration at a temperature at or below 41 °F), and require that items are stored in such a way as to provide for adequate air circulation. In addition, reach-in refrigerators do not allow for the storage of food items on the lowest surface or less than six inches above the lowest surface.

Example of a reach-in refrigerator:

2.4. Freezers

Freezer storage units must:

a. Be constructed in accordance with current National Sanitation Foundation (NSF) standards and bear the NSF seal,

b. Be provided with thermometers mounted on the unit's exterior and another placed inside the unit,

c. Be equipped with a numerically scaled thermometer accurate to plus or minus 3 °F, located in the warmest part of the facility to measure air temperature and mounted where it can be easily read,

d. Be monitored and recorded using temperature logs with accurate entries being made daily,

e. Maintain frozen foods at a temperature of 0 °F or below, and

f. Have emergency escape latches on all doors to prevent trapping anyone inside.

2.4.1. Types of Freezers

Freezers come in two types: walk-in and reach-in.

a. **Walk-In Freezers**. Walk-in freezers provide for the storage of frozen food items and do not allow for the storage of these items on the deck or less than six inches above the deck.

Example of a walk-in freezer:

b. **Reach-In Freezers**. Reach-in freezers have the same temperature requirements as walk-in freezers (maintain frozen foods that require refrigeration at a temperature at or below 0 °F), and require that items are stored in such a way as to provide for adequate air circulation. In addition, reach-in freezers do not allow for the storage of food items on the lowest surface or less than six inches above the lowest surface.

Example of a reach-in freezer:

2.4.2. Procedures for Cleaning Walk-in Refrigerators and Freezers

CLEANING WALK-IN REFRIGERATOR/FREEZER INTERIORS	
Step	**Action**
1.	To clean the interior of the refrigerator, use a solution of baking soda or borax and hot water. These compounds act as deodorants and will not scratch or mar the finish.
2.	To prepare a soda solution, mix one-half teaspoon of ordinary baking soda to each quart of water.
3.	Clean the exterior of the cabinet with clear water or a weak solution of baking soda and warm water.
4.	Once a week, wash door gasket rubber with mild soap and water followed by a fresh rinse.
End of procedure	

2.4.3. Procedures for Cleaning Reach-in Refrigerators and Freezers

CLEANING REACH-IN REFRIGERATOR/FREEZER INTERIORS	
Step	**Action**
DAILY CLEANING	
1.	Clean up spills and exterior surfaces with detergent and warm water. Wipe dry.
BI-WEEKLY CLEANING	
1.	Transfer all stored foods to protected temporary storage.
2.	Remove shelving and loose equipment to wash sink filled with detergent solution. Scrub with plastic bristle brush. Rinse. Sanitize with spray. Leave door open to dry.
3.	Scrub interior of box with hot detergent solution, using plastic brush. Clean corners, doors, openings, hinges, and latches. Rinse. Sanitize.
PERIODIC CLEANING	
1.	Clean vacuum compressor, condenser coils, motor and related areas. Refer to owner's manual for cleaning instructions.
End of procedure	

2.5. Range tops

The most important piece of cooking equipment in the galley is the range top. Range tops come in many shapes and sizes, and with different features such as:

a. Open elements (or burners)

b. Flattops (lightweight)

c. Flattops (heavy duty)

d. Induction surface

2.5.1. Open Element Range tops

Open element range tops may be either electric or gas and are:

a. Fastest to heat

b. Capable of being turned off after short use

c. Limited to one pot per burner

Example of an open element (gas) range top (with griddle):

2.5.2. Flat top Ranges

a. Have their burners covered with a steel plate

b. Provide more cooking space than open element range tops

c. Support moderately heavy weight

Example of a flat top range:

2.5.3. Heavy-Duty Flat tops

a. Use heavy cast steel to cover the burners

b. Support many heavy pots

c. Require longer preheating time

d. Allow for setting burners to different heating levels

e. Provide for the adjustment of cooking temperatures by moving pots to different spots on the cook top

2.5.4. Induction Cook tops

a. Work by magnetically agitating the molecules in steel or iron cookware so that the cookware becomes hot

b. Have no hot surfaces or open flames and therefore do not become hot themselves

c. Require no warm-up

d. Can be turned on or off instantly

The disadvantage to induction cook tops is that they can be used only with iron or steel pots; aluminum or copper cookware will not work unless coated with a layer of magnetic steel. To counteract this disadvantage, some of the newer types of cookware insert aluminum between two layers of stainless steel in order to provide the heat conducting qualities of aluminum with the induction capabilities of steel.

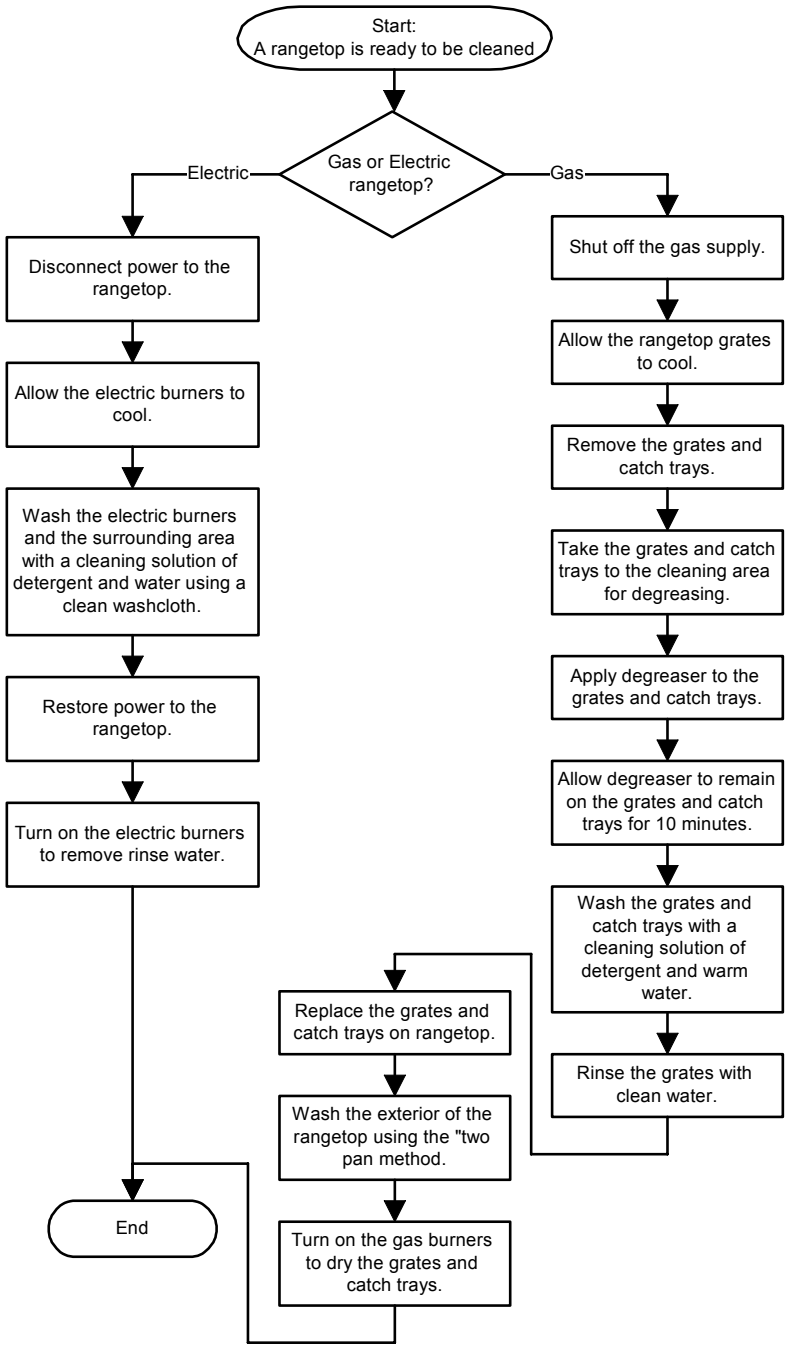
Example of an induction cook top:

2.5.5. Guidelines for using Range tops

GUIDELINES FOR USING RANGETOPS	
Do ✓	**Don't** ✗
✓ Make sure gas pilot lights are lighted before turning on gas burners. ✓ Adjust the air intake so that gas flames are blue with a white tip for maximum heat.	✗ Keep flat top ranges on high heat for extended periods of time unless items are being cooked.

2.5.6. Range top Cleaning Procedures

To clean range tops, refer to the below flowchart:



2.6. Ovens

Ovens are enclosed spaces in which food is heated. In addition to roasting and baking, ovens may perform many of the jobs normally done by the range top such as:

a. Simmering

b. Stewing

c. Braising

d. Poaching

Like the range top, ovens come in many shapes, sizes, and types. The Coast Guard uses the following types of ovens:

a. Conventional ovens

b. Convection ovens

c. Combination steamer ovens

d. Microwave ovens

2.6.1. Conventional Ovens

Conventional ovens operate by heating air in an enclosed space. They may be configured as part of a range unit or as an individual shelf or deck oven or arranged one above the other, each oven deck having its own adjustable temperature.

Example of a stack or deck oven:

2.6.2. Guidelines for using Conventional Ovens

GUIDELINES FOR USING CONVENTIONAL OVENS	
Do ✓	**Don't** X
✓ Be sure the pilot light is on before turning on a gas oven	✖ Preheat the oven longer than necessary (helps avoid excessive use of energy)
✓ Leave adequate space between items placed in the oven to allow for better heat circulation	✖ Open the oven door any more often than necessary (helps avoid losing energy and interrupting the cooking of food)

2.6.3. Convection Ovens

Convection ovens contain fans that circulate the air and distribute the heat rapidly throughout the interior of the oven. Convection ovens also:

a. Cook foods more quickly at lower temperatures; when using a convection oven the temperature should be reduced by 25 to 50 degrees unless otherwise specified in the operating instructions or recipe.

b. May dry out products or cause ripples on cakes.

c. Allow pans to be placed closer together without blocking the flow of heat.

d. May require the blower to be on when in use.

Example of a Convection Oven:

2.6.4. Guidelines for using Convection Ovens

GUIDELINES FOR USING CONVECTION OVENS	
Do ✓	**Don't** X
✓ Be sure the pilot light is on before turning on a gas oven ✓ Space items well to allow for better heat circulation	✘ Preheat the oven longer than necessary (to avoid excessive use of energy) ✘ Open the oven door any more often than necessary (to avoid losing energy and interrupting the cooking of food)

2.6.5. Combination Steamer Ovens

Combination steamer ovens can be operated in three modes:

a. As a convection oven,

b. As a convection steamer, or,

c. As a combination convection oven/steamer or high-humidity oven (which helps reduce shrinkage and drying of meat during roasting).

Example of a combination steamer oven:

2.6.6. Microwave Ovens

Microwave ovens use special tubes for generating microwave radiation to create heat inside the food being cooked. Microwave ovens can be used for primary cooking, but are mostly used for heating prepared food and thawing raw or cooked food items. Points to remember when using a microwave oven:

a. Small items will not brown in a standard microwave oven.

b. Overcooking of food items is the most common error in microwave cooking.

c. Sliced, cooked meats and other items are likely to dry out in the microwave, and therefore should be loosely wrapped in plastic or wax paper, or covered in a sauce or gravy.

d. Microwave ovens act only on water molecules and foods with a high water content, such as vegetables. As a result, drier foods, such as cooked meats, take longer to cook.

e. Foods at the edge of a dish or plate cook faster than foods at the center of a dish or plate.

f. Microwaves do not penetrate metal. As a result, food items wrapped in foil and other metals will not cook. Manufacturer's instructions should always be reviewed before placing foil or other metals in a microwave.

Example of a microwave oven:

2.6.7. Guidelines for using Microwave Ovens

GUIDELINES FOR USING MICROWAVE OVENS	
Do ✓	**Don't** ✗
✓ Watch timing of the food items carefully, because high energy levels cook small items very rapidly. ✓ Turn over large items once or twice to cook the item evenly. ✓ Use the on/off cycle for large items to allow heat to be conducted to the interior of the food item being cooked. ✓ Use the defrost cycle to thaw frozen foods.	✗ Place large roasts and other large quantities of food in the microwave oven at the same time—the primary advantage of speed in cooking will be lost.

2.6.8. Oven Cleaning Procedures

CLEANING CONVECTION AND CONVENTIONAL OVENS	
Step	**Action**
1.	**IF** it is a: / **THEN:** Conventional Oven / Continue on step 2. (complete steps 2 – 8) Convection Oven / Continue on step 5. (complete steps 5 – 8 only)
2.	Remove the blower baffle by lifting it up and pulling it out.
3.	Clean the blower wheel using a wire brush.
4.	Remove loose particles and wipe the blower wheel using a clean, moist cloth.
5.	Clean oven liners, shelves and shelf supports. Clean daily when oven is cold with mild detergent or soap and water. For burnt on foods and grease, which resist simple soap and water cleaning, an abrasive cleaner, sized into a paste, may be employed. Apply with stainless steel wool, always rubbing with the "grain." Rinse with clear water and dry.
6.	Remove shelves and shelf supports to clean liners and to occasionally clean blower wheel. Remove all shelves by pulling forward, lifting up and out. Remove both right and left shelf supports by lifting out. When cleaning blower, remove blower baffle by lifting up and pulling out. Wire brush the wheel and wipe it up with a moist cloth. Remove all loose particles.
7.	Replace the hardware. Reverse the disassembly procedure.
8.	Clean oven exterior. Wash all exterior surfaces daily with warm water and mild soap or detergent.
End of procedure	

2.6.9. Cleaning Procedures for Microwave Ovens

CLEANING MICROWAVE OVENS	
Step	**Action**
1.	Wipe up spills immediately. **Note:** Do not allow food particles or grease to collect on light cover, inner door and oven cavity front surface. **Note:** Do not use scouring pads, abrasive powders or other abrasive materials on any oven surfaces.
2.	Turn power to “OFF”.
3.	Wipe all surfaces in the oven cavity with the dampened cloth or sponge and then dry with a clean cloth.
4.	Wipe the inner door surface and oven cavity front with mild detergent solution and dry.
5.	Remove the air intake filter and wash in hot water to remove grease and dust.

2.7. Grills

Grills are similar to broilers except that grills generate heat from below the food items rather than from above. Grills may be used to prepare such items as steaks, pork chops, and chicken. When operating a grill, consider the following:

a. When operating a grill, consider the following:

b. Set the areas of the grill to different temperatures and place food items in the areas with the appropriate cooking temperature

c. Keep the grill clean (high temperatures can start grease fires)

Example of a grill:

2.7.1. Grill Cleaning Procedures

CLEANING GRILLS	
Step	**Action**
1.	Leave heat on the grill to burn off any leftover food particles and hard-to-clean residue.
2.	Secure the grill by turning it off.
3.	Scrub the grill grates using a metal wire brush to remove baked-on particles. If scrubbing the grates while still hot or warm, use protective mitts to avoid burning hands and arms. **Note:** Pay particular attention to cracks, crevices, and the underside of the grill grates during cleaning.
4.	Clean the bottom of the grill using a solution or detergent.
5.	Rinse the grill grates using clean water.
6.	Allow the grill grates and bottom of the grill to air dry.
End of procedure	

2.8. Griddles

Griddles may be separate, stand-alone units or integrated with other types of cooking equipment such as a range top. Griddles are flat, smooth, heated surfaces used to cook foods such as:

a. Pancakes

b. French toast

c. Hamburgers and other meats

d. Eggs

e. Potato products

Example of a griddle:

2.8.1. Guidelines for Using Griddles

GUIDELINES FOR CLEANING GRIDDLES	
Do ✓	**Don't** X
✓ Clean the griddle after each use. ✓ Polish the griddle with a griddle stone or griddle cloth until the surface shines. ✓ Condition the griddle after each cleaning or before each use.	✖ Go against the grain of the griddle with a griddle stone. ✖ Use detergents or cleansers on the griddle surface.
Note: Detergents can be used on the griddle surface, but ONLY if they are food-safe.	

2.8.2. Griddle Cleaning Procedures

CLEANING GRIDDLES	
Step	**Action**
1.	Shut off power. Use manual switch.
2.	Turn off heat. Remove carbonized grease (after each use). NEVER clean surface plate while hot. Allow plate to cool. NEVER POUR WATER ON A HOT PLATE. Scrape surface with spatula or metal dough cutter. Wipe clean with dry paper towels. Use pumice stone block or griddle screens to clean hard to remove burned areas on plate after each use.
3.	Empty grease receptacles. Clean grease and/or drain troughs. Pour hot detergent solution into small drain and brush. Rinse with hot water and dry.
4.	Scrub guards, front, and sides of griddle. Using hot detergent solution, wash off grease, splatter, and film. Rinse and dry.
End of procedure	

2.9. Deep Fryers

a. Deep fryers come in three varieties:

b. Standard Deep Fryers. Standard deep fryers are powered by either electricity or gas and use a thermostat to set and maintain temperatures.

c. Automatic Fryers. Automatic fryers automatically remove cooked food after a preset time.

d. Pressure Fryers. Pressure fryers cook foods faster and at lower temperatures by cooking foods under pressure.

Example of a deep fryer:

2.9.1. Guidelines for using Deep Fryers

GUIDELINES FOR USING DEEP FRYERS	
Do ✓	**Don't** ✗
✓ Make sure the drain valve is shut before adding fat to an empty deep fryer kettle. ✓ Set the thermostat at 250°F (120°C) (when filling a deep fryer with solid fats) until the solid fat has melted enough to cover the heating elements. ✓ Keep deep fryer kettle filled to the fill line. ✓ Check the accuracy of the thermostat regularly by reading the temperature of the fat with a thermometer.	✗ Overload baskets. ✗ Salt foods over the fat. (Salt will deteriorate the grease). ✗ Fry strong and mild-flavored foods in the same fat.

2.9.2. Deep Fat Fryer Cleaning Procedures

CLEANING DEEP FAT FRYERS	
Step	**Action**
1.	Turn off heating element. Allow fat to cool to 150°F.
2.	Drain and filter fat (after each use). Open drain valve and catch drained fat in container. Drain entire kettle contents and filter into a container. Place a clean fat container into well or wash and replace original one.
3.	Remove baskets. Scrape off oxidized fat with a knife. Remove loose food particles from the heating units with a spatula or a wire brush. Flush down sides of kettle with a scoop of the hot fat. Soak basket and cover in deep sink in hot detergent water.
4.	Remove strained sediment container cup as often as necessary for cleaning. Clean off sediment and place back in kettle. Stir hot fat and whirl cleaning sediment to center to permit settling in sediment container. Drain fat and wipe off excess.
5.	Close drain. Fill tank with water, add water up to fat level. Add 2 ounces dish compound.
6.	Turn on heating element. Set heat control at 250°F and boil 10-20 minutes or until fryer reaches 250°F.
7.	Turn off heat. Open drain. Draw off cleaning solution.
8.	Scrub interior. Using long-handled brush, scrub interior. Flush out with water. Clean basket with nylon brush and place back in kettle.
9.	Rinse and sanitize. Fill kettle with water. Add ½ cup vinegar to neutralize remaining detergent. Turn on power and boil for 5 minutes. TURN OFF HEAT. Drain. Rinse with clear water.
10.	Air-dry parts. Expose baskets and strainer to air and dry.
11.	Clean exterior. While kettle is cool, wipe off exterior with grease solvent or detergent solution. Rinse.
End of procedure	
Step	**Action**
WEEKLY CLEANING	
DESTAIN DEEP-FAT FRYER:	
1.	Drain fat. Fill the kettle to fat level with water. Heat to at least 175°F, or allow it to boil for 5 to 10 minutes. Turn off heat.
2.	Add 2 tablespoons of de-staining compound per gallon of water. Let stand up to 1 hour. Agitate solution and loosen particles remaining on the sides of kettle.
3.	Place screens and strainers in 175°F water containing 2 tablespoons of de-staining compound per gallon. Make sure water completely covers the screens and strainers. Allow to stand overnight. Rinse thoroughly and air dry.
End of procedure	

2.10. Tilt Skillets

The tilt skillet is a large, shallow, flat-bottomed pot that uses a tilting mechanism to pour liquids and other foods out if it. The tilt skillet uses gas or electricity for its power source. The tilt skillet can be used as a:

a. Griddle

b. Fry pan

c. Brazier

d. Stewpot

e. Stockpot

f. Steamer

g. Bain-marie

h. Steam table

Example of a tilt skillet:

2.10.1. Tilt Skillet Cleaning Procedures

CLEANING TILT SKILLETS	
Step	**Action**
1.	Add clean water to the tilt skillet.
2.	Turn on the skillet, and bring the water to a simmer.
3.	Scrub the tilt skillet thoroughly with a soft bristle brush.
4.	Pour out the soiled water.
5.	Rinse the tilt skillet with clean water.
6.	Pour out the rinse water.
7.	Allow the griddle surface to air dry.
End of procedure	

2.11. Steam-Jacketed Kettles

Steam-jacketed kettles are heated not just on the bottom, but on the sides as well, which enables more control over the temperature of the kettle while heating more quickly and more uniformly than a regular pot on a range.

The temperature of the kettle is controlled by regulating the flow of steam into the jacket surrounding the kettle or by adjusting the thermostat. Steam for the kettle may be provided by an external steam source or internally self-generated by kettle.

Steam-jacketed kettles range in capacity from 2 gallons to over 100 gallons. Some large institutional kettles hold as much as 4,000 gallons.

Types of steam-jacketed kettles include:

a. **Tilt Kettles**. Tilt or trunnion kettles that can be tilted to empty their contents by either turning a wheel or pulling a lever

b. **Non-Tilt kettles**. Non-tilt kettles can be emptied by operating a spigot or drain at the bottom.

Example of a steam-jacketed kettle:

2.11.1. Steam-Jacketed Kettle Cleaning Procedures

CLEANING STEAM-JACKETED KETTLES	
Step	**Action**
1.	Do not use steel wool or any abrasive for cleaning.
2.	Wash kettle before and after each use with hot soapy water and rinse thoroughly.
3.	Clean strainer before and after each use with hot soapy water. Rinse thoroughly.
4.	The stainless steel surface of the unit may be polished periodically with an approved stainless steel cleaner.
5.	Clean strainer, draw off valve and draw off tube thoroughly after each use. To clean, draw off valve and tube; remove the front end of the valve and brush. Scrub with hot water.
End of procedure	

2.12. Food Mixers

Food mixers come in many shapes and sizes including:

a. **Bench models**. Bench model mixers range in capacity from 5 to 20 quarts.

b. **Floor models**. Floor model mixers range in capacity up to 140 quarts.

Example of a small bench model mixer and floor model mixer:

2.12.1. Mixer Attachments

Mixers use three main attachments:

a. **Dough Arm**. The dough arm is used for mixing and kneading yeast dough.

b. **Paddle**. The paddle is a flat blade used for general mixing.

c. **Wire Whip.** The wire whip is used for beating cream and eggs and making mayonnaise.

Example of a dough arm, paddle wire and a whip:

2.12.2. Guidelines for using mixers

GUIDELINES FOR USING MIXERS	
Do ✓	**Don't** ✗
✓ Make sure the attachment being used matches the size of the mixing bowl (sizes of attachments are marked on the top of the attachment and bowl sizes are marked on the sides of bowl). ✓ Make sure the bowl and mixing attachment are firmly in place before turning on the machine. ✓ Turn off the machine before changing speeds. ✓ Turn off the machine before scraping down the bowl or inserting a spoon, scraper, or hand into the bowl.	✗ Scrape down the bowl or stick a hand in the bowl while it is on or moving. ✗ Fill the bowl more than ½ full. ✗ Wear loose clothing (such as aprons) when operating mixers.

2.12.3. Mixer Cleaning Procedures

CLEANING FOOD MIXERS	
Step	**Action**
1.	Secure the electrical power.
2.	Detachable parts such as beaters should be thoroughly washed in a solution of hot water and approved mild detergent. Sanitize in the sanitizing sink and air dry. Bowls should also be thoroughly washed in a solution of hot water and approved mild detergent. If the sanitizing sink is large enough, sanitize the bowls and air dry. Chemical sanitizing may also be used.
3.	Wipe down exterior parts of the mixer with a solution of hot water and approved mild detergent, rinse and wipe dry. **CAUTION:** do not allow water to enter machine electrical compartments or gear case.
End of procedure	

2.13. Proof Boxes

The proof box is used to create a constant warm, moist environment to help expedite the proofing process of raised dough.

Example of a proof box:

2.13.1. Guidelines for Using Proof Boxes

GUIDELINES FOR USING PROOF BOXES	
Do ✓	**Don't** ✗
✓ Make sure water is added to the proof box before it is used. ✓ Monitor the temperature of the proof box at regular intervals using a thermometer.	✗ Allow the proof box to run out of water.

2.13.2. Procedures for Cleaning Proof Boxes

CLEANING PROOF BOXES	
Step	**Action**
1.	Clean interior after removing racks. Clean floor, walls, top and inside of door. Scrape sides, corners, and guide rails with putty knife. Scrub floor with long-handled gong brush and hot machine detergent solution. Rinse, dry and wipe guide rails and ledges thoroughly. Remove and clean water pan, rinse and wipe dry.
2.	Scrub exterior. Scrub top, outside of door, and sides with hot machine detergent solution; rinse and dry.
3.	Clean around proof box. Scrub back of box and wall. Scrub floor behind and under machine if space permits, if not, flush with hot water.
4.	Air dry. Leave open to air.
End of procedure	

2.14. Meat Slicers

Meat slicers are valuable for reducing cutting costs and maintaining portion control by slicing food more evenly than cutting by hand.

There are two types of meat slicers, manual and automatic.

a. **Manual**. Manual requires the operator to move the carriage back and forth to slice food.

b. **Automatic**. Automatic has a carriage that is moved back and forth by an electric motor.

Example of a meat slicer:

2.14.1. Guidelines for Using Meat Slicers

GUIDELINES FOR USING MEAT SLICERS	
Do ✓	**Don't** ✗
✓ Make sure the slicer is properly assembled before using. ✓ Use the end weight to hold the food against the blade. ✓ Set the thickness control knob to zero (so the blade is flush) when cleaning the slicer or when the slicer is not in use. ✓ Unplug the slicer before cleaning or dismantling. ✓ Use sharpening stones provided with the slicer to sharpen the blade.	✗ Wear loose clothing (such as aprons) when operating slicers. ✗ Attempt to catch the sliced product when it falls from the blade.

2.14.1. GUIDELINES FOR CLEANING MEAT SLICERS

GUIDELINES FOR CLEANING MEAT SLICERS	
Step	**Action**
1.	Secure the electrical power to the meat slicer.
2.	Remove the food carriage and any other removable pieces except the knife guard.
3.	Remove the knife guard.
4.	Clean the meat slicer parts in sink #1 of the three-compartment sink using a cleaning solution of detergent and warm water.
5.	Rinse the meat slicer parts in sink #2 of the three-compartment sink with clean water.
6.	Sanitize the meat slicer parts in sink #3 of the three-compartment sink.
7.	Air-dry the meat slicer parts.
8.	Sanitize the meat slicer body with a cleaning solution of warm water and detergent using the “two-pan” method.
9.	Allow the meat slicer body to air dry.
10.	Replace the knife guard.
11.	Replace the meat slicer parts onto the meat slicer.
12.	Cover the meat slicer with a plastic bag or other covering.
End of procedure	

2.15. Ice Machines

Ice machines must:

a. Be located, installed, operated and maintained in a sanitary manner to prevent contamination,

b. Be cleaned and inspected periodically by refrigeration personnel to ensure proper operation,

c. Be inspected weekly for evidence of cockroach infestation within the motor and insulation areas,

d. Be provided with air gaps between the ice storage bin and drains,

e. Be equipped with sanitary racks or stowage trays for hoses or lines used to fill freezing trays,

f. Be provided with overflow pipes for defrosting tanks in order to prevent contamination of ice with water used for defrosting.

Example of an ice machine:

2.15.1. Guidelines for Using Ice Machines

RULES FOR USING ICE MACHINES	
Do ✓	**Don't** X
✓ Ensure non-potable water inlets do not become submerged. ✓ Dispense ice with scoops, tongs, and other ice-dispensing utensils, or through automatic self-service ice dispensing equipment. ✓ Store ice-dispensing utensils and ice receptacles in a way that protects them from contamination.	✘ Do not use drinking glasses as a scoop to dispense ice. ✘ Do not store ice-dispensing utensils inside ice making machines.

2.15.2. Ice Machine Cleaning Procedures

CLEANING BULK ICE MACHINE	
Step	**Action**
DAILY CLEANING	
1.	Clean the exterior of the machine using the “two-pan” method defined in ref (c).
2.	Wipe the inside of the ice bin cover.
MONTHLY CLEANING	
1.	Disconnect the electric power supply and remove the ice from the bin.
2.	Thoroughly clean the interior of the bin with a mild detergent and water solution using a nylon bristle brush.
3.	Flush with clean water until all traces of detergent have been removed.
4.	Reconnect the electric power supply.
End of procedure	

CLEANING ICE DISPENSING MACHINE
Action
The only cleaning involved by food service attendants is the exterior of the machine, which should be cleaned daily using the “two-pan” method. Any problems relating to the machinery and internal workings of the ice dispensing machine should be referred to the engineering/public works department.
End of procedure

2.16. Food Processors

Food processors are the workhorses of the galley/kitchen. When specialized tasks are required, the food processor is used to:

a. Shred

b. Dice

c. Slice

d. Grate

e. Julienne

Example of a food processor:

2.16.1. Guidelines for Using Food Processors

GUIDELINES FOR USING FOOD PROCESSORS	
Do ✓	**Don't** ✗
✓ Machine should be properly assembled before use. ✓ After turning off the machine, allow blades to come to a full stop before opening the cover of the bowl. ✓ Keep blades sharp using the sharpening stone provided.	✗ Allow blades to become dull (dull blades bruise food).

2.16.2. Food Processor Cleaning Procedures

CLEANING FOOD PROCESSORS	
Step	**Action**
1.	Secure power from the food processor.
2.	Disassemble the food processor, using caution when handling the blade.
3.	Clean the parts of the food processor (including the bowl, blade, and bowl top) using the three-compartment sink.
4.	Allow the parts of the food processor to air dry.
5.	Sanitize the exterior of the food processor using the "two-pan" method.
6.	Allow the food processor to air dry.
7.	Reassemble the food processor.
8.	Store the food processor in its proper location.
End of procedure	

2.17. Salad Bar

Salad bars are normally found on the mess deck. They are either chilled by ice or refrigeration. Salad bars are used to keep fruits, vegetables, meats and condiments chilled at temperatures below the danger zone, but not frozen.

Example of a salad bar:

2.17.1. Salad Bar Cleaning Procedures

To clean and sanitize the salad bar after EACH use, follow these procedures:

CLEANING AND SANITIZING SALAD BARS	
Step	**Action**
AFTER EACH USE	
1.	Remove all inserts of salads and dressings and return them to the vegetable preparation room/galley supervisor.
2.	Discard the ice or defrost the salad bar.
3.	Using the “two-pan” method, clean and rinse the salad bar and allow it to air dry. ✓ Special attention should be given to the drain to ensure that it is free of food particles and draining properly. ✓ Clean the sneeze shield, the top and bottom of the refrigerated tier shelves, and the legs and metal frames.
4.	Most refrigerated salad bars have a bottom section for the storage of salads and dressings. This should also be cleaned after each meal. Ensure that the drain and the gaskets around the doors are thoroughly cleaned.
5.	If the exterior of the salad bar is made of stainless steel, follow the cleaning procedures for stainless steel surfaces.
End of procedure	

To clean and sanitize the salad bar at the END OF THE DAY, follow these procedures:

CLEANING AND SANITIZING SALAD BARS	
Step	**Action**
1.	Remove food items from the salad bar and dispose of them in accordance with food service procedures.
2.	Turn off power to the salad bar, and allow salad bar to come up to room temperature.
3.	Clean the salad bar with a cleaning solution of detergent and warm water using a clean cloth. **Note:** Do not use abrasive materials or cleaners that may scratch the interior or exterior of the salad bar.
4.	Rinse the interior and exterior of the salad bar with warm, clean water using a clean cloth. **Note:** Pay particular attention to cracks and crevices during cleaning and rinsing of the interior and exterior of the salad bar.
5.	Allow the salad bar to air dry.
End of procedure	

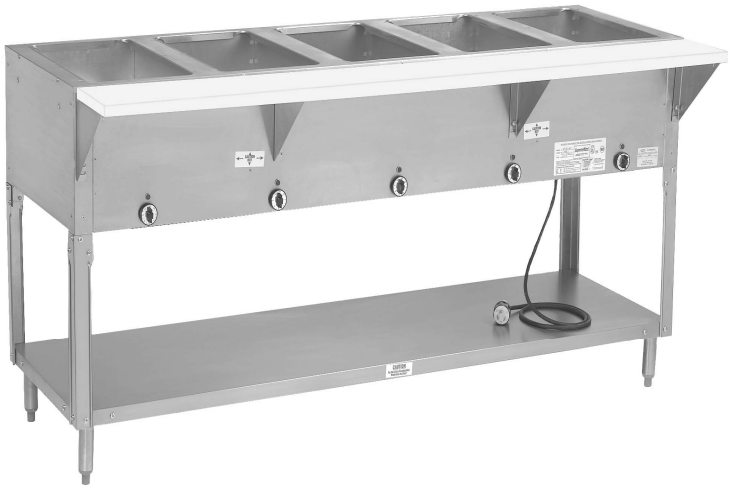
2.18. Steam Tables

Steam tables come in many shapes and sizes and may be powered by either electricity or gas. They come in two types, bench models and floor models. When operating a steam table, periodically:

a. Check the temperature of the steam table to ensure the proper temperature is maintained

b. Check the level of water to ensure steam is being created.

Example of a floor model steam table:



2.18.1. Steam Table Cleaning and Sanitizing Procedures

CLEANING AND SANITIZING STEAM TABLES	
Step	**Action**
DURING THE PERIOD THE SERVING LINE IS OPEN	
1.	Clean food spills immediately.
2.	Replenish food items (do not wait until the food insert is empty).
3.	Ensure that personnel assigned to serving food items are courteous and follow serving instructions.
AFTER CLOSING THE SERVING LINE	
1.	Check with the watch captain as to the disposition of food items.
2.	Turn off the heat source. ✓ Close the steam valve on steam table. ✓ Turn the temperature control dials to the “off” position on the electric table.
3.	Open the drain valve(s).
4.	Allow hot food table to cool.
5.	Remove all loose food particles. Particular attention should be given to the drains.
6.	Using the "two-pan" method, thoroughly clean the interior and exterior of the hot food table and allow to air dry. **Note:** Do not use abrasive materials or cleaners that may scratch the interior or exterior. **Note:** A stronger detergent solution may be required to thoroughly clean the interior of the steam table on a daily basis. The following cleaning solution is recommended: four tablespoons of dishwashing machine detergent and two tablespoons of general purpose detergent to each gallon of hot water.
End of procedure	

2.18.2. De-scaling Steam Tables

Depending on the geographical location and the mineral content of the fresh water supply, the steam table may require scheduled de-scaling. This will remove rust, lime, and scale deposits and allow the unit to operate at maximum efficiency. It is recommended that de-scaling be accomplished after the evening meal.

2.18.3. Procedures for De-scaling Steam Tables

DESCALING STEAM TABLE	
Step	**Action**
1.	Fill the steam table with water to cover the coils and mineral deposits.
2.	Open the steam supply valve and bring the water to a boil
3.	Turn off the steam supply valve and add the de-scaling compound as per the directions on the container.
4.	Allow the solution to remain in the steam table overnight.
5.	Brush the interior of the steam table with a nylon bristle brush.
6.	Drain and rinse with clear water to remove all loosened particles and de-scaling solution. Allow to air dry.
End of procedure	

2.18.4. Electric Tables

If the electric hot food table is designed for "dry" operation, the bottom of each receptacle may take on a straw-colored appearance. The discoloration of the stainless steel surface is due to the intense heat from the unit. If the unit is designed for "wet" operation, de-scaling may be accomplished by following the basic procedures for the steam table. Some electric tables designed for "wet" operation have a drain line installed for each unit making cleaning and de-scaling procedures easier. Other tables do not have drains installed and the water/solutions should be removed with a ladle or by wiping dry. If this is the case, personnel should wear rubber gloves and exercise caution to prevent being burned or coming into contact with the de-scaling solution.

2.19. Heat/Warming Lamps

Overhead heat lamps are used in service areas for keeping large roasts, fish and rolls warm. Overhead heat lamps are also used for keeping plated food warm before the service staff picks up the food.

Example of a Heat/Warming Lamp:

2.19.1. Heat/Warming Lamp Cleaning Procedures

CLEANING HEAT/WARMING LAMPS	
Step	**Action**
1.	Secure the heat/warming lamp by unplugging the lamp from the AC power supply.
2.	Allow the heat/warming lamp to cool down.
3.	Clean the heat/warming lamps with a solution of detergent and warm water using a clean cloth. **Note:** Do not use abrasive materials or cleaners that may scratch the glass or plastic surfaces of the heat/warming lamps.
4.	Rinse the heat/warming lamps with clean water using a clean cloth. **Note:** Pay particular attention to cracks, crevices and the underside of the heat/warming lamps during cleaning and rinsing.
5.	Allow the heat/warming lamps to air dry.
6.	Store the heat/warming lamps in their proper location.
End of procedure	

2.20. Compartment Steamers

Compartment steamers are used to cook vegetables and many other types of food with a minimum loss of nutrients and flavor. Compartment steamers do not operate under pressure, but rather direct jets of steam at the food to speed up the heat transfer process. Because of this, the door to the compartment steamer can be opened at any time.

Compartment steamers hold standard-sized counter pans (12 × 20 inches); the number of pans varies from one steamer to another.

Example of a compartment steamer:

2.20.1. Compartment Steamer Cleaning Procedures

CLEANING COMPARTMENT STEAMERS	
Step	**Action**
CLEAN THE EXTERIOR	
1.	When the unit has cooled down, wipe the exterior with a soft damp cloth.
2.	Wipe dry with a clean soft cloth. **Note:** Do not spray exterior with water.
CLEAN INTERIOR	
1.	Cool unit to 140° F. If unit is cold, turn on "Steam" mode for 3 to 4 minutes to warm the unit's interior surfaces.
2.	Spray the interior of the unit with recommended cleaning detergent. **Note:** Never spray water into the unit when the temperature is above 212° F.
3.	Let cleaner work for 15 to 20 minutes.
4.	Set unit on Steam mode and adjust timer for 20 minutes.
5.	Use the exterior hose to rinse the unit interior with water.
5.	Set unit on "Steam" mode and set timer for 5 minutes to remove all detergent residues. **Note:** Never scrape or scour the unit interior.
End of procedure	

2.21. Toasters

There are two types of toasters, pop-up and conveyor.

a. **Pop-up Toasters**. Pop-up toasters allow for a maximum of up to four slices of bread, English muffins, and bagels to be toasted at once.

b. **Conveyor Toasters**. Conveyor toasts allow for multiple slices of bread, English muffins, and bagels to be toasted in a sequential fashion.

Example of a pop-up toaster and a conveyer toaster:

2.21.1. Conveyor Toaster Cleaning Procedures

CLEANING CONVEYOR TOASTERS	
Step	**Action**
1.	Disconnect the electric power supply and allow the toaster to cool.
2.	Remove the catch tray and wash/rinse in the utensil wash sink; catch tray may be placed in the dishwashing machine.
3.	Wipe down exposed surfaces with a damp cloth, and brush all crumbs out of the inside of the toaster and from around the base.
4.	Do not allow water or cleaning solution to come in contact with the conveyor chains, as they will rust.
5.	Remove the bread baskets and clean thoroughly. Bread baskets may be placed in the dishwashing machine. To remove baskets: ✓ Move each basket in turn to a position midway to the front of the machine. ✓ Press the left conveyor chain to the left and the pins will slip out of the holes in the basket. When replacing baskets, be sure holes on each side are properly aligned with the pins on the conveyors so the basket will not be slanted when it goes through the toaster.
End of procedure	

2.22. Milk Dispensers

Example of a Milk Dispenser:

2.22.1. Guidelines for Using Milk Dispensers

GUIDELINES FOR USING MILK DISPENSERS	
Do ✓	**Don't** ✗
✓ Check temperature range which should be 32° to 41° F ✓ Cut milk dispenser tube with a clean sanitized instrument to a point not more than 1/4 inch below the termination of the dispensing mechanism. ✓ Wipe up spills immediately. ✓ Keep catch bowls or trays clean; empty them as necessary.	✗ Do not reuse disposable cardboard milk containers; dispose of them when empty.

2.22.2. Milk Dispenser Cleaning Procedures

CLEANING MILK DISPENSER	
Step	**Action**
1.	Clean exterior with a mild detergent solution. Rinse well with clear water to remove film. **Note:** Do not use abrasive materials or cleaners
2.	Remove, disassemble, and wash the lift valves after each meal.
End of procedure	

2.22.3. Defrosting Milk Dispensers

Milk dispensers must be defrosted when ice deposits have accumulated to a thickness of 3/16 of an inch.

DEFROSTING MILK DISPENSER	
Step	**Action**
1.	Secure the electric power and leave the door wide open.
2.	When the ice has melted, wash the interior with warm solution of water and detergent, rinse, dry, and reconnect the electric power. **Note:** Do not use metal objects to scrape ice from cabinet walls.
End of procedure	

2.23. Carbonated Beverage Dispensers

Example of a Carbonated Beverage Dispenser:

2.23.1. Guidelines for Using Carbonated Beverage Dispensers

GUIDELINES FOR USING CARBONATED BEVERAGE DISPENSERS	
Do ✓	**Don't** X
✓ Check to see that water supply system is equipped with an appropriate backflow prevention device or air gap. ✓ Wipe up spills immediately. ✓ Keep catch trays clean; empty them as necessary.	✖ Do not let supply lines kink. ✖ Do not store syrup on the deck.

2.23.2. Carbonated Beverage Dispenser Cleaning Procedures

CLEANING CARBONATED DRINK DISPENSERS	
Step	**Action**
AFTER EACH MEAL	
1.	Remove the beverage dispensing nozzles, clean in hot water, and replace.
2.	Remove the front stainless steel cover and clean; clean the exposed interior section and replace cover.
3.	Pour hot water into the drain pan to flush all carbonated syrup from the drains.
4.	Disconnect the electric power and CO^2 supply when the dispenser is not in use.
5.	Syrup containers: ✓ Containers should be checked and refilled prior to serving the meal. ✓ Wash, rinse and sanitize containers before refilling. ✓ Detachable hoses should be dipped in hot water prior to replacing to remove beverage syrup and clean O-ring seals.
WEEKLY	
1.	Disconnect the electric power.
2.	Remove the top cover to the dispenser. Clean the cover with detergent and water, rinse, and air dry.
3.	Vacuum or brush the compressor coils and the area around the compressor.
4.	Reassemble the dispenser.
End of procedure	

2.24. Non-Carbonated Beverage Dispensers

Example of a Non-Carbonated Beverage Dispenser:

2.24.1. Non-Carbonated Beverage Dispenser Cleaning Procedures

CLEANING NON-CARBONATED DRINK DISPENSERS	
Step	**Action**
AFTER EACH MEAL	
1.	Turn off the electric power supply to the machine.
2.	Drain the beverage from the dispenser and check with the watch captain in regard to future use. Do not discard the beverage unless directed.
3.	Disassemble the dispenser in the following manner: ✓ Remove the dispensing valves from the beverage tank. ✓ Remove the cover, drip pan, re-circulating spray tubes and magnetized agitators. ✓ Remove the beverage tank from the machine. ✓ Clean the exterior of the exposed dispenser using the “two-pan” method. Areas that are often overlooked are the base of the dispenser (legs), and the dispensing valve openings. ✓ Wash the removed items in warm detergent and water, rinse with clear water to remove all traces of detergent, place in a sanitizing solution and allow to air dry. Use hand dishwashing compound for detergent. DO NOT use any abrasive cleaners and DO NOT place in the dishwashing machine (remember the removable parts are of plastic material). ✓ Reassemble the dispenser after it has air dried.
WEEKLY	
1.	Disconnect the electric power supply.
2.	Remove the stainless steel cover from the front of the dispenser.
3.	Remove the side panels and screens.
4.	Wash and rinse all removed items (be careful not to lose the metal screws).
5.	Vacuum the exposed area of the dispenser and wipe with a damp cloth.
6.	Reassemble the dispenser immediately.
End of procedure	

2.25. Soft Ice Cream Dispensers

Example of a Soft Ice Cream Dispenser:

2.25.1. Soft Ice Cream Dispenser Cleaning Procedures

CLEANING SOFT ICE CREAM DISPENSERS	
Step	**Action**
AFTER EACH USE	
1.	Remove the hopper cover and mix feel assembly; move the switch to the “wash” position and draw off all remaining ice cream.
2.	Rinse hopper and freezer with cold water, draw off, and move the switch to the “off” position.
3.	Place 1 gallon of detergent and water (140°F.) solution into the hopper. Move the switch to the “wash” position and operate for 2 minutes. Draw off detergent and water solution. Use hand dishwashing compound for detergent.
4.	Rinse the machine interior with clean water.
5.	Remove all detachable parts: freezer door assembly and draw-off plunger, beater, blades and beater drive shaft, mix feed assembly and hopper cover assembly.
6.	Wash all parts in detergent and water, rinse, place in sanitizing solution, remove and air dry. ✓ Use hand dishwashing compound for detergent. ✓ Store all sanitized parts in a clean area until the next use.
PREPARING FOR USE AFTER CLEANING	
1.	Reassemble the machine.
2.	Dip each part in sanitizing solution prior to assembly.
3.	Place remainder of sanitizing solution in the hopper, move the switch to the “wash” position and run for one minute. Drain completely; the soft-serve ice cream machine is now ready for use.
End of procedure	

2.26. Coffee Urns

Example of a Coffee Urn:

2.26.1. Coffee Urn Cleaning Procedures

CLEANING COFFEE URNS	
Step	**Action**
DAILY	
1.	Rinse with enough water to remove sediment and old coffee from the bottom of the urn liner, drain lines and faucet.
2.	Add approximately 1 gallon of hot water to the urn liner and brush the sides carefully with a clean bristle brush. A long-handled bowl brush is recommended. The brush should be “labeled” and used only for this purpose.
3.	Drain and flush with hot water until the water runs clear. It is now ready for the next batch of coffee.
AFTER THE DINNER MEAL	
1.	Follow the above procedure and then proceed with the following cleaning method.
2.	Add an accurately measured solution of 1 ounce dishwashing machine compound completely dissolved in 1 gallon of hot water to the urn liner. Use only thoroughly mixed solution of dishwashing machine compound and hot water. Do not place solid cleaning agents in the urn liner as they may become entrapped in the drain line or faucet.
3.	Thoroughly brush the coffee urn liner and using a small “pipette” brush clean the gauge glass. Clean the lid (cover) also as it is exposed to coffee vapors.
4.	Rinse thoroughly to remove all traces of cleaning solution. Flush urn liner, gauge glass, and faucet with hot, clear water (180°F.) to ensure that these items are sanitized.
5.	Place approximately 1 gallon of clean water in the urn liner when it is not in use and leave the lid (cover) ajar. This will prevent the bottom of the urn liner from becoming burned and will permit the steam to escape.
6.	Remember to drain the water from the urn liner prior to preparing coffee.
End of procedure	

2.26.2. De-staining Coffee Urns

The coffee urn should be de-stained at least weekly, and more frequently if the urn liner becomes badly stained.

DESTAINING COFFEE URNS	
Step	**Action**
1.	Be sure the urn water jacket is ¾ full and the urn is turned on.
2.	Fill the urn liner with hot water to the coffee line. Add the de-staining compound in accordance with the instructions on the container.
3.	Allow the solution to remain in the urn liner approximately 60 minutes. Drain off some of the solution through the drain line and faucet and pour back into the urn liner. Place a “DO NOT USE” warning sign on the coffee urn during the de-staining process.
4.	Drain and thoroughly rinse until all traces of the de-staining solution have been removed.
5.	Place approximately 1 gallon of clean water in the urn liner and leave the lid ajar until the next use.
End of procedure	

2.26.3. Automatic Coffee Makers

These coffee makers make one pot of coffee at a time. The measured coffee is placed on filter paper in a funnel and placed in the coffee maker. A clean, empty pot is placed on the heating element of the coffee maker. At the push of a button the water is instantly heated and passes through the grounds into the pot. Do not hold the coffee longer than 30 minutes.

Example of an Automatic Coffee Maker:

2.26.4. Automatic Coffee Maker Cleaning Procedures

CLEANING AUTO DRIP COFFEE MAKERS	
Step	**Action**
DAILY	
1.	Wash pots and baskets with hot soapy water. Rinse with clean water.
2.	Wash external machine with a damp soft cloth, pay particular attention to water spout area, as this often overlooked. Deposits of minerals and coffee around the spout will make coffee bitter.
MONTHLY	
1.	A mixture of 1 part vinegar to 2 parts water is the best way to clean a drip coffee maker. Mix a full pot of the vinegar and water mixture, pour it in the water reservoir and turn the coffee maker on.
2.	Once the mixture has run completely through, turn the drip coffee maker off and let it cool for 15 to 20 minutes. Discard the vinegar and water mixture. **Note:** If cleaning a coffee maker that has not been cleaned regularly, repeat this step again with a fresh vinegar and water mixture.
3.	Rinse the pot out thoroughly with warm, clean water. Then, fill the water reservoir again with clean water and turn the coffee maker on to start the rinsing process.
4.	To make sure all of the vinegar and water solution is completely gone repeat the rinsing process one more time after letting the pot cool for 15 to 20 minutes.
End of procedure	

3. FOOD SERVICE OPERATIONS SAFETY PROCEDURES

3.1. Safety Programs

A well-organized safety program will reduce accidents resulting in time lost from the job, additional administrative burdens and undue hardships for all concerned. A safety conscious operation with well-trained personnel will result in reduced dish breakage, a more pleasant atmosphere, more efficient work habits and better food service. Safety is good management.

3.1.1. Safe Working Conditions

It is necessary to have safe conditions before food service operations can begin. Conditions that promote safety include:

a. Ample working space

b. Clearance between equipment

c. Overhead clearance

d. Counters of adequate width and height

e. Adequate aisles

f. Suitable storage facilities

g. Items stored to preclude falling

h. Adequate and protective storage for machine attachments with special emphasis on cutting devices

i. Adequate lighting

j. Correct light placement

k. Proper light intensity for jobs to be performed

l. Adequate guards on low hanging fixtures to prevent personnel contact and suitable removers for detachable bulbs and tubes.

m. Good insulation

n. Steam and water lines located away from workstations where feasible

o. Properly insulated and protected lines.

p. Good housekeeping

q. Floor clutter eliminated.

r. Proper enclosures and guards for equipment

s. Gears, chains and belts properly enclosed

t. Guards installed to prevent accidental operation

u. Interlock switches installed on protective covers which can expose the operation to moving parts or other hazards

v. Safety and operating instructions posted adjacent to all equipment and visible to all operators.

3.1. 2. Proper Care of Floors

a. Floors in all areas require special attention. Keep floors clean and dry. Mop and then dry floors by mopping or wiping down a small area at a time.

b. Terrazzo and tile floors may become especially slippery when weather is humid and will require additional attention to maintain a dry, safe condition.

3.1.3. Chairs and Tables

a. Do not leave chairs in aisles or passageways

b. Remove chairs and tables with broken parts, splinters, rough edges, or loose joints; repair or replace damaged items

c. Never use chairs or tables as ladders.

3.1.4. Fire Safety

a. Allow smoking in designated smoking areas only

b. Immediately report any smoke or fire

c. Fire extinguisher locations must be known to all. Check seals and inspection tags on extinguishers; if broken or out of date, report at once

d. Clearly designate fire exits; keep fire doors, fire exits and fire stairs clear of materials and equipment; use fire exits only in emergency

e. Use of supplemental locks and chains on fire exits is prohibited.

3.1.5. Safe Clothing

a. Work shoes must be maintained in good condition

b. Laces should be neatly laced and tied to prevent tripping and slipping

c. Heels should be kept in good repair

d. Wear comfortable work shoes with strong support

e. Safety shoes or toe guards must be worn by personnel doing heavy work

f. Loose sleeves, ties or apron must not be worn by personnel working with grinders, mixers or saws

g. Do not wear jewelry during food preparation

h. Gloves must be worn by personnel handling wooden crates or performing duties where there is a danger of injury to hands.

3.1.6. Compliance with Ordinances, Regulation and Codes

a. Electrical equipment installed must comply with the National Electric Code

b. Equipment inspections must be scheduled and conducted by qualified personnel

c. Wiring and fuses shall be checked for overloading

d. Electric equipment must be properly grounded

e. Circuit breakers and fuse boxes shall be legibly marked to indicate circuits served

3.2. General Rules for Safety

Safety rules are reminders of ways to prevent accidents. These rules are discussed in this chapter as they apply to food service operations. See references (c) and (d) for more detailed guidelines.

3.2.1. Receiving and Storage Operations

In general, storage compartments must be located away from sources of contamination, maintained in good repair and kept clean.

a. When opening boxes, cartons, crates, etc, remove nails; do not bend them down. Beware of broken glass.

b. Locate the heavier and bulkier materials on the lower shelves. Avoid storage on top of lockers or other high storage units.

c. Cover food containers except when in actual use.

d. Food containers will become contaminated by wire, splinters and dirt if not opened properly.

e. Know where fire fighting equipment is located. Store items where they would not be in the way when equipment is needed.

f. Place flammable cleaning materials or other materials in specified lockers or in approved safety cans; store only on lower shelves.

g. Maintain good housekeeping to reduce the hazard of fire and other accident hazards.

h. Place stores so they do not protrude into the aisles from bins or shelves.

i. Be sure light bulbs are guarded and materials are stored no closer than 18 inches to any bulb.

j. To avoid toppling and damage to cases and product, do not stack cases too high.

k. Use shelving of sturdy construction. In storerooms afloat, secure merchandise behind battens or lash down

l. Stockrooms must be properly ventilated. Smoking is prohibited.

m. When lifting, keep back straight, bend knees and let leg muscles do the work. If load is too heavy for one person to manage, ask for assistance.

n. Use adequate and safe ladders; avoid overreaching to get objects.

o. Store pesticides, cleaning agents, and chemicals in original containers away from food service areas.

p. Store and secure carbon dioxide (C02) bottles (tanks) where they cannot be knocked over. All gauges on tanks must be in good working condition.

3.2.2. Food Preparation Operations

a. Wear hot pads properly. Slip hands through the elastic straps on the back of pads to protect the underside of wrists and enable firm gripping of the hot pans. Launder pads frequently.

b. Cook in minimum amounts of water to avoid boiling over and spilling when pouring hot liquids.

c. Remove steam-jacketed kettle covers carefully so steam may escape without scalding hands or face.

d. Keep the range tops and ventilation hoods free of grease.

e. Handles of cooking utensils must be turned away from the edge of the range to prevent being pushed off.

f. Avoid splashing when drawing hot water or coffee from an urn. Turn the spigot slowly. Check all valves and spigots for proper closed position before tilting urn.

g. Keep oven doors closed when not in use.

h. Do not clean the oven or range until it has cooled.

i. Clean up spills immediately. Store all kitchen utensils off the floor, on shelves or in proper spaces provided.

3.2.3. Equipment Used for Food Preparation

General Points for Safe Operation of All Equipment:

a. Only trained and qualified personnel are authorized to use food service equipment. Be sure all safety devices are in place and all parts are installed as directed by the manufacturer.

b. Place electrical switch in the OFF position and unplug before cleaning or adjusting any machine. If machine is hardwired turn off power at the circuit breaker panel and tag "**out of service**."

c. Keep fingers, hands, spoons, bowls and knives away from moving parts. Wait until the machine stops before removing food.

d. All electrical appliances must be in the OFF position before being plugged into the outlet or before restoring power to the circuit breaker.

e. Cutters and choppers must have guards as specified by the manufacturer, including blade guard and interlock switches that render the machine inoperable when the guard is not properly positioned.

f. Exercise caution when removing and replacing cutting blades.

g. When operating cutters, use only the pusher supplied with the machine. Never put fingers or any implement under the blade safety cover when using rotating-bowl type choppers.

h. Turn off the power and wait for the blades to come to a full stop before recovering anything dropped into the unit. Remember, blades rotating at high speeds appear to be stopped.

i. To secure cutter and choppers, turn off the power and pull the plug. If machine is not equipped with a convenient plug, turn off power at the circuit breaker panel and tag "**out of service**". Wait until the knives and the holding container have come to a complete stop before removing food. Never attempt to remove product lodged between blade and housing.

j. Disassemble in accordance with the manufacturer's manual. Remove the blades, hand wash them and store them in the proper place. Never leave blades to be cleaned in the utensil washing areas.

3.2.4. Slicers

a. Locate slicers away from traffic areas. Slicers should be properly secured, mounted, guarded and grounded electrically as specified by the manufacturer.

b. Keep knife guards in place at all times except when the slicer is unplugged and disassembled for cleaning. Ensure the interlock switches that render the machine inoperable when the guard is not properly positioned are in working condition.

c. Use the pusher, not a hand, to guide the product being sliced toward the blade.

d. Always disconnect power cord prior to cleaning and reconnect only when ready to use.

e. Never touch the blade with hands. Clean the blade with a clean, detergent-soaked cloth wrapped around a cook's fork or other extension utensil.

f. Always replace knife guards as quickly as possible after cleaning.

3.2.5. Mixers

a. Vertical food mixers should have guards if feasible.

b. Check clothing to be sure there are no tie strings, ties or loose ends that might be caught in the agitator or other moving parts of the mixer.

c. Use the right agitator and a large enough bowl for the job.

d. Do not mix batches too heavy for one person to handle safely unless wheeled equipment is available for moving.

e. Should an overload occur, stop the machine and correct the condition.

f. To adjust or clean the mixer or to remove the mixing bowl, turn the switch to the **OFF** position and pull the plug to prevent accidental operation. Do not start mixing machines until the bowl is properly placed and beater is securely fastened. Do not start machine with the clutch engaged.

3.2.6. Steam-Jacketed Kettles and Steamers

Each day this equipment is used, test the safety relief valves. With equipment under operating pressure, operate the relief valve arm to release several spurts of steam. If steam does not “blow off”, do not operate equipment until the valve is checked and serviced.

a. The safety discharge exhaust must be piped down to a vented drain and directed so it cannot discharge on operators.

b. Safety relief valve arms must be equipped with a chain to allow activation from a safe distance.

c. Steam jacketed kettles must be hydrostatically tested on an annual basis.

3.2.7. Microwave Ovens

a. Inspect at least quarterly for radiation leakage.

b. Make sure door is closed before starting.

c. Do not put aluminum or metal pans in microwave.

3.2.8. Knives

a. Be alert; grip firmly and keep fingers away from blade.

b. Keep the sharp edge away, and cut away from the body and from fellow workers.

c. Use a cutting board.

d. Keep all knives in their permanent storage place with blades protected when not in use. Store near point of use.

e. Do not leave knives in the sink or where they cannot be easily seen.

f. A sharp knife is safer than a dull knife since it will cut objects more easily without danger of slipping.

g. Remove steel particles from the knives after they are sharpened to prevent contamination of food.

h. If a knife falls, don't grab it; get out of the way.

i. Use special knives, i.e., boning knives, carving knives or paring knives, only for the kinds of jobs they are intended to do.

j. Knives are not can openers and should not be used as such.

k. Do not hold a knife when carrying other objects.

3.2.9. China and Glassware

a. Use care in handling glasses and dishes. Do not stack them so there is danger of toppling.

b. Use dust pan and brush or broom to sweep up pieces of broken glass or china. Use a dampened paper towel for cleaning up slivers of glass or china. Use a special container for broken pieces. Do not place them in waste baskets, garbage or refuse cars.

c. Discard chipped or cracked drinking glasses or other glassware immediately.

d. Glass and metal utensils do not mix so keep glass and china out of the utensil washing sink.

e. When storing glasses and cups, place them upside down.

NOTE: If it is known or suspected there are broken glasses or dishware in soapy water, drain the water first. Then remove the broken pieces carefully.

3.2.10. Food Serving Operations

a. Consider the following general points during food serving operations:

b. Avoid overloading trays. Carefully place the dishes and food containers on the trays so they will not slip or spill when trays are carried.

c. Check all glassware, dishes and other eating utensils for possible defects before using them. Remove defective items immediately.

d. Do not hand cups, bowls or plates containing hot liquids or foods to members. Place on the counter to be picked up to avoid spills, burns and other accidents.

e. Avoid overfilling containers with liquids or hot foods. Tilt containers away when inserting in wells.

f. Be sure the edges of the plate, bowl or cup are free of food.

g. Be careful when handing knives, forks and other sharp objects.

h. Protect food from foreign substances. If an article is broken near open food containers, immediately report this to the supervisor so food can be removed from service.

3.2.11. Dish Bussing and Washing Operations

Safety Requirements during Dish Bussing and Washing Operation:

a. Do not overload soiled dish carts. Make sure the route is visible, especially through doorways or around corners. Push cart - do not pull.

b. Remove from service carts requiring repair.

c. Watch for sharp or jagged edges on dish or silver containers.

d. Stack dirty dishes carefully. Avoid spilling. Separate dinnerware, glassware and flatware. Place them in the proper containers for washing, whether by machine or by hand.

e. Load dishwashing racks to their design capacity only.

f. Use dollies or mobile dispensers to transport loaded and unloaded dishwashing racks when practical.

3.2.12. Medical Representation

The FS should work with the assigned or local Health Services Technician (HS) or medical representative to establish and provided training to all food handlers regarding basic food sanitation, personal hygiene, food safety, and caring for and operating the food service equipment they are required to use and maintain. The HS or medical representative also performs inspections of food items; food preparation; service, storage, and refuse disposal spaces weekly.

4. BUILDING A LOAD GUIDE AND LOAD GUIDE REQUIREMENTS

4.1. General

A load guide is the procedure for establishing inventory requirements for a predetermined amount of time. The factors that impact inventory requirements are: Deployment Duration or Operational Schedule; Replenishment Time and Shelf Life.

Inventories of food items must not exceed 60-day requirements with the following exceptions:

a. Afloat units.

b. Vessels required to maintain inventory for extended deployments.

c. Shore units.

Shore side units whose dining facilities may need to carry an inventory exceeding 60 days, (i.e., located in an area of frequent hurricane activity) must request permission via memorandum from Commandant (CG-1111), through their respective FSAT.

NOTE: To ensure proper inventory rotation, shore based dining facilities are encouraged to maintain no more than one week's inventory.

The FSO shall use cycle menus and accurate usage data in planning stores loading and must collect accurate usage data to plan menus during periods of extended deployment or infrequent replenishment.

4.2. Inventory Requirements

a. The amount of stored food items, known as the inventory, is determined by using the total of the operating level plus a contingency reserve.

b. The Operating Level is the quantity of food items necessary to sustain operating requirements between replenishment periods.

c. The Contingency Reserve is composed of semi-perishable food. It refers to the amount required on hand in addition to the operating quantity to permit continued operations and cover unexpected circumstances, minor interruptions or fluctuations in stores replenishment.

Below is an example of a 28 day load guide.

Determining Inventory Requirements for a load guide:

a. Inventory Requirements for each subsistence item are based on Deployment Duration and the quantity required each time the item is served. Total time is as follows:

   Deployment Duration: Length of time unit is deployed.

b. Contingency Reserves (semi-perishable): Additional food stocked to compensate for possible deployment extensions or delays in scheduled replenishment. This will vary from unit to unit, and for each deployment, however, it is recommended to stock at least 25% additional inventory, space permitting. The contingency reserve is derived by multiplying the Deployment Duration by the recommended additional inventory of 25%.

Example: If the Deployment Duration is set for 28 days, the Contingency Reserve is computed as 7 days.

Deployment Period x Additional Inventory = Contingency Reserve

28 Days x 25% = 7 Days

Example: If the Deployment Duration is set for 28 days, the total time involved (inventory) is computed as 35 days. This figure is derived by adding the deployment period and contingency reserve, as follows:

Deployment Duration + Contingency Reserve = Total Time

28 Days + 7 Days= 35 Days

Quantity required each time the item is served:

This is based on the number of personnel to be fed and the recipe requirements.

Using the total time involved, and quantity required each time the item is served, the senior FS will prepare a list of ingredients required to prepare each meal on the cycle menu.

NOTE: Every attempt should be made to purchase as many of the high cost food items as possible from home port to ensure receiving of the highest quality products and the best value.

4.3. Order of Loading

a. Meats/Frozen; Vegetables/Other Frozen Items:

1) Coordinate the on-load of subsistence items with consideration given to the ship's maintenance, manpower availability, weather, and product availability.

2) Communicate all intentions / plans with department head / command.

3) Start several weeks out and order no greater than 30% at a time to prevent overloading the freezer, or having it open for too long (this will also give the freezer time to regulate prior to sailing).

4) Always order frozen meats for load out.

5) Plan for the first two weeks of frozen food to be loaded closest to the door.

6) Do not order too much ration dense food.

7) Keep items such as frozen waffles and pizza dough down to a minimum. This will provide more room for meats and vegetables.

b. Dry Stores:

1) Start several weeks out to have time to arrange stock properly.

2) Order approximately 50% at a time.

3) Avoid ordering items in glass containers whenever possible.

4) Order enough baking ingredients to supplement pre-baked goods.

5) Order Ultra-high temperature processing (UHT) milk with the dry stores order to supplement fresh milk supply.

c. Fresh Dairy/Eggs/Produce (Perishables):

1) Fresh dairy and produce items should be ordered no more than one week prior to deployment. This will ensure that the product is consumed before it exceeds its shelf life.

2) Fresh produce should be ordered last and split into two orders if time permits, with leafy vegetables very last.

3) Check expiration dates when receiving to ensure a good shelf life.

4) Only purchase enough perishable food in a foreign country to last until reaching U.S. waters to prevent large surveys and disposing of good food.

5) When ordering produce, especially from foreign ports, specify export quality vs. market quality.

6) Consideration should be given to the use of ethylene gas absorbers. These products have proven to increase the shelf life of many produce products. For further information on these products contact the respective Food Service Assistance and Training Team (FSAT) for the unit.

d. Re-supply Considerations

The FSO must direct replenishment to obtain sufficient food items. In doing so, he or she must consider the length of procurement lead time and procurement sources in determining the quantity and type of food items needed to accomplish the unit's mission.

Contact vendor in advance via email, logistics requisition (logreq) or phone.

5. PRODUCE INSPECTION AND STORAGE

5.1. Fruit and Vegetable Storage Tips

Inspection upon receipt of all food stuffs is imperative. This allows the FS to ensure that the best quality products are accepted.

5.2. Guidelines to Proper Storage to Extend Shelf Life

Apples	Keep sealed in plastic bag or container and refrigerate away from foods with strong-odors up to 3 weeks.
Asparagus	Keep sealed in plastic bag or container and refrigerate up to 4 days.
Bananas	Room temperature up to 5 days or in refrigerator up to 2 weeks. Once refrigerated skin will turn brown.
Berries	Refrigerate strawberries and blueberries up to 4 days and red and black raspberries up to 2 days.
Broccoli	Keep sealed in plastic bag or container and refrigerate up to 5 days.
Cabbage	Keep sealed in plastic bag or container and refrigerate up to 3 weeks.
Carrots	Keep sealed in plastic bag or airtight container with tops removed, refrigerate up to 2 months. To crisp put into ice water.
Cauliflower	Refrigerate in its wrapping, no more than 5 days.
Celery	Refrigerate up to 1 week (for longer storage, stand head in container of cold water, wrap exposed portion with plastic bag or plastic wrap).
Cherries	Refrigerate up to 1 week.
Citrus	(Oranges, grapefruit, lemons, limes) Refrigerate up to 2 weeks.
Corn	Keep sealed in plastic bag or container and refrigerate away from foods with strong-odors up to 3 days.
Cucumbers	Keep sealed in plastic bag or container and refrigerate up to 1 week.
Garlic	Keep in a cool, dry and well-ventilated location in an open container or basket up to 4 weeks.
Grapes	Keep sealed in plastic bag or container and refrigerate up to 1 week.
Green Onions	Refrigerate away from odor-sensitive foods such as apples and mushrooms up to 5 days.
Greens	(Collards, kale, spinach, turnip, beet and mustard greens) Refrigerate wrapped loosely in damp paper towel in plastic bag up to 5 days.
Kiwifruit	To ripen faster, store in paper bag with an apple or if ripe store in refrigerator up to 10 days.

Lettuce/Salads, Packaged	Refrigerate; store any remaining salad in original, breathable bag, follow use-by date.
Melons	(Cantaloupe, honeydew, watermelon) Room temperature for whole/uncut melon or in refrigerator up to 1 week.
Mushrooms	Refrigerate in original containers or paper bags away from strong-odor foods, up to 7 days.
Onions	Cool, dry, well-ventilated location in open container/basket; use within 4 weeks
Pears	If unripe store at room temperature; ripe pears refrigerate up to 3 days (can hold off ripening 3-4 weeks by refrigerating; return to room temperature to ripen).
Peppers	Keep sealed in plastic bag or airtight container and refrigerate up to 5 days.
Pineapples	For best shelf life, refrigerate with crown and shell removed, fruit cut, in airtight container, use within 5 days; (can store whole at room temperature for a few days)
Potatoes	Cool dry, dark place in open container/basket; use within 3-5 weeks.
Squash, summer	Refrigerate up to 5 days.
Squash, winter	Room temperature up to 2 months.
Tomatoes	Room temperature up to 1 week once ripe (never refrigerate whole).
Tree Fruit	(nectarines, peaches, plums) Unripe – place in paper bag at room temperature for 1-2 days, ripe – refrigerate up to 3 days.

5.3. Produce Handling and Safety

a. Purchase produce that is not bruised or damaged. If buying fresh cut produce, be sure it is refrigerated or surrounded by ice.

b. Put produce that needs refrigeration away promptly. Fresh produce should be refrigerated within two hours of peeling or cutting. Leftover cut produce should be discarded if left at room temperature for more than four hours.

c. Wash hands often. Hands should be washed with hot soapy water before and after handling fresh produce, raw meat, poultry, or seafood, as well as after using the bathroom, changing diapers, or handling pets.

d. Wash all fresh fruits and vegetables with cool tap water immediately before eating. Do not use soap or detergents. Scrub firm produce, such as melons and cucumbers with a clean produce brush. Cut away any bruised or damaged areas before eating.

e. Wash prep surfaces often. Cutting boards, dishes, utensils and counter tops should be washed with hot soapy water and sanitized after coming in contact with fresh produce, raw meat, poultry or seafood. Sanitize after each use.

f. Do not cross contaminate. Use clean cutting boards and utensils when handling fresh produce. If possible, use one clean cutting board for fresh produce and another for meats. Wash cutting boards, utensils or dishes that have come into contact with fresh produce, raw meat, poultry or seafood.

g. Do not consume ice that has come in contact with fresh produce or other raw products.

h. Use a cooler with ice or use ice gel packs when transporting or storing perishable food outdoors, including cut fresh fruits and vegetables.

i. Further information on produce and proper handling and storage instructions for Meat, Dairy products, etc, can be found in reference (c).

6. MENU PLANNING

A menu is a plan of foods offered for one meal, for one day or several weeks. Menu planning is an important responsibility because menus must provide nutritious and enjoyable meals within specified cost limits. Menus must also utilize food service personnel and equipment effectively and be compatible with the available storage space. Since all aspects of the food service operation are influenced by the menus, they are the key to good management.

NOTE: Menus are developed in accordance with reference (d) and the Food Service Practical Handbook. Recipes shall be approved by the Food Service Officer prior to use.

6.1. Menu Development Considerations

a. Nutritional adequacy

b. Budget

c. Item usage restrictions

d. Seasonal availability

e. Likes /dislikes of crew

f. Existing inventory

g. Unit Operations / mission

h. Special events

i. Galley staffing and equipment

j. Storage facilities

6.2. Daily Food Requirements (Nutritional Adequacy)

It is important that meals are well balanced. Each person has unique and individual needs when it comes to recommended daily food requirements. In recent years, the Food Guide Pyramid has made changes to the MY Pyramid website to make determining daily food requirements simple and easy for every person. By entering basic information about yourself, your activity level and your weight management goals into the My Pyramid calculator, you can receive a customized report of your daily food requirement needs. To learn more about you own nutrients needs, go to www.mypyramid.gov

For a comprehensive approach to nutritious menu planning see reference (a).

6.3. Menu Budget

The menu is drafted and developed based on the unit's total Basic Daily Food Allowance (BDFA). For information on computing a unit's BDFA, see reference (d).

6.4. Item Usage Restrictions

Consider restrictions when planning menus. The Federal Supply Catalog, Group 89, Subsistence, lists all food items authorized for purchase for the military services.

6.5. Seasonal Availability

Adjust menus to capitalize on seasonal changes in the supply of fresh produce and seasonal changes in appetite. Select fruits and vegetables in season as price and storage space permit. Canned, frozen and dehydrated fruits, juices and vegetables supplement the fresh menu items and are comparable in nutritive value.

6.6. Likes and Dislikes

Acceptance for the same menu may vary from unit to unit and meal to meal. This results from different combinations of foods on a menu, the weather, geographical area and demographics. A way to prevent excess waste is to observe what is being thrown away at the end of the meal, which items are being consumed and which are not. Another way of determining food preference is to obtain written feedback of particular items in the form of a questionnaire with a rating scale.

6.7. Existing Inventory

When planning a menu it is important to consider existing inventory to ensure serving of the freshest food possible through proper inventory rotation, and therefore eliminating waste and excess ordering.

6.8. Unit Operation/Mission

Consideration should be given when preparing menus for different Coast Guard platforms that caloric needs meet the level of activity. For example, a person working buoys in Alaska will need more calories than a person sitting at a desk in Petaluma. In addition, consideration should be given to avoid meals requiring excess preparation when the galley has limited staff due to operational needs.

6.9. Special Events

Special Events are functions that are performed outside typical food service daily operations. Examples include Change of Command, Receptions, Morale events, etc. The role of the FS Division in these functions is critical. Refer to Chapter 7, Work Flow Planning, in this manual for specifics and work flow example.

6.10. Galley Equipment and Staffing

The menu planner must consider the galley equipment available, the number of personnel to be fed, and the number of personnel who work in the galley. Avoid menus that require too much last minute preparation. Plan a balance between foods that can be prepared early without deteriorating and those that must be prepared just before serving time.

6.11. Storage Facilities

Limited storage space, especially on small ships deployed on long cruises, does not permit the use of many perishable foods. A semi-perishable item may be the first choice as an ingredient in a recipe when the integrity of a dish will not be compromised. For example, it is acceptable to use canned corn in place of frozen corn for Shepherds Pie to ensure the future availability of frozen corn.

6.12. Cycle Menus

Coast Guard Dining Facilities utilize cycle menus. A cycle menu is a series of menus planned to be used consecutively and to be repeated, with some variations, over a period of time. It can be used most effectively for a three-month period or for any seasonal period of the year, that is, winter, spring, summer and fall. Below are advantages to utilizing a cycle menu:

a. **Time Saving**. A cycle menu requires much less planning time than writing a fresh menu at the beginning of each week. It is reasonable and practical to assume once a good menu is written, the plan is reusable as is or with minor alterations to bring it in line with available supplies. After a cycle is established, each weekly menu can be created without starting with a blank form and going through the many required steps; the menu planner needs only to make minor changes when the need arises.

   When the pressure of a fast approaching weekly deadline is removed, better menus can be planned. Because a cycle menu can be used for a three-month period, sufficient time for planning each cycle can be scheduled. While the cycle menu is in use, the menu planner is able to further refine the menu and make changes by tailoring them to the customers' preferences before the menu is used again.

b. **Breakout Data**. These quantities can be brought closely in line with requirements when menus are repeated. This is especially true when a selective menu is offered. If only 30% of the customers select an entree at a meal when there are breakouts for 50% based on the predictions, an adjustment reflecting the 30% acceptance rate can be made when the meal is repeated during the next cycle. Usage data generated during a cycle furnishes a base for pricing future menus and for assessing inventories.

c. **Cycle lengths**. Food service operations cycle menus of three, four, five, or six weeks are most practical. Less than a three-week cycle would cause monotony, while a cycle longer than six weeks loses some of the advantages.

d. **Submission for weekly approval**. It is recommended that each menu be submitted at least one week in advance to allow time for approval and ordering.

e. **Drafting Menus**. The following is the recommended approach for drafting a three week cycle menu:

   1) Begin by planning the lunch and dinner menu. Use the charts below to aid in brainstorming product ideas for the menu. Lunch and dinner should consist of the following components: Entrée, starch, vegetable, salad, bread, soup, and dessert.

   2) Choose 42 entrees for the three week cycle menu. Plot these items on a 21 day calendar. Use the color coded system referenced below to avoid repeatedly serving the same like food items. Plot the starches, vegetables, salads, soups, and desserts on the same chart and ensure these items complement the chosen entrée. Use the Meat Guideline listed below as an aid to managing costs, maintaining morale, and meeting nutritional requirements.

      Color Code System. The color code and frequency used for each type of entrée is:

      a) Beef (includes Lamb& Game) Red no more than 4 times per week

      b) Pork Pink no less than 4 times per week

      c) Poultry Yellow at least once per week

d)	Seafood	Green	at least twice per week (ensure that 1 Seafood entrée is a fish fillet)

Quickly identify potential problems early in the menu development by using the color coding system and frequency guidelines.

NOTE: The guidelines do not account for breakfast since most meats served are pork based.

f. **Avoiding Entrée Repetition**. Avoid repeating entrée items when planning a menu. Lay out menu drafts and ensure that Monday's entrées are different from the previous Sunday's. Also check to see that week one Monday meals are not the same as week four Sunday meals (when using a four week cycle menu).

6.13. Rule of Three

a. Never exceed three fried food items per week. Deep fat fried items should be kept to a minimum and offer an alternative food item whenever possible.

b. Ensure there are three different colors represented by the food in each meal. It is also important to vary color on the plate.

c. Try to serve a steak entrée three times per month.

d. Always include a crisp, soft and firm food into each meal.

6.14. Lunch and Dinner Brainstorming

Lunch and dinner should have something from each of the following categories with two exceptions. Soup and dessert are not always required at every meal.

a. Soup

b. Main entrée

c. Carbohydrate (potato, pasta, or rice)

d. Vegetable

e. Salad (tossed or mixed)

f. Bread

g. Dessert

h. Beverage

6.14.1. Soup Brainstorming Chart

Soups should fit the current weather conditions and complement the entrée as well. It will be useful to list as many different soups familiar with as possible, spread across the clear, thick and specialty soups categories. Then draw from these while building menus. It may be useful to consult the Armed Forces Recipe Service (AFRS) cards, *Professional Cooking*, by Wayne Gisslen and any other approved sources.

Clear	Thick	Specialty
Chicken Noodle	New England Clam Chowder	French Onion
Beef Consommé	Cream of Broccoli	Cold Melon
	Cream of Tomato	Gazpacho

6.14.2. Entrée Brainstorming Chart

Prepare the list to include entrees that are balanced in the following areas: preparation times, caloric content and budget. Consideration should also be given to seasonal availability, cultural preferences, required equipment availability and galley staff skill sets.

Poultry		
Chicken Parmesan		
Roast Duck		
Roasted Turkey		
Beef/Lamb/Game		
Oven Roast Beef		
Marinated Flank Steak		
Corned Beef		
Venison Stew		
Pork	**Seafood**	
Honey Glazed Pork Medallions	Bohemian Style Lobster	
Other **Meatless Pasta Entrée, Vegetarian Casseroles, Soy Based Foods, and so on.** **(Non meat entrees should be accompanied with meat entrees)**		
Veggie Sandwiches	Baked Ziti	White Bean Chili
Vegetarian Lasagna	Eggplant Parmesan	Veggie Burger

6.14.3. Carbohydrate (Potato, Rice and Pasta) Brainstorming Chart

Provide a variety of complex carbohydrates to menus. Potatoes, pasta, and rice will constitute a majority of the carbohydrates the crew should eat. Some carbohydrates will be part of the entrée, as in lasagna. Add variety to a menu by changing an ingredient in a recipe. Instead of using spaghetti noodles, use bow ties, fettuccini or ziti. List more than there is room for, all of them may or may not be used, but it is a great list to review later when the seasons change or menus are being re-evaluated.

Potatoes	Pasta	Rice
Oven Glo' Potatoes	Macaroni and Cheese	Rice Pilaf
Mashed Sweet Potatoes with Crispy Topping	Orzo	Risotto
	Couscous	

6.14.4. Vegetable Brainstorming Chart

Use fresh vegetables as the first choice. If conditions do not permit the use of fresh vegetables then frozen would be the second choice followed by canned, and then dehydrated. Also take into account popularity and crew opinions. In an effort to encourage the consumption of more vegetables, offer multiple vegetable choices whenever possible. To aid in menu production, categorize vegetables by color.

Green		
Spinach	Kale	Green beans
Broccoli	Peas	Cabbage
White / Other	**Orange / Yellow**	**Red / Purple**
Turnip	Carrots	Beets
Cauliflower	Acorn squash	Red turnip
Onions	Yellow squash	Purple cabbage

6.14.5. Salad Brainstorming Chart

The size of the unit will dictate whether or not a salad bar is used or a single salad is presented in its place. If a salad bar is used, it is an excellent means for utilizing extra unused products. Variety, freshness and creativity are the keys to successful salad bars and salads.

Assorted Salad Components	Pasta Salads	Dressings	Potato Salads
Romaine	Italian Pasta Salad	Blue Cheese	Hot German Potato Salad
Spinach		Thousand Island	Dill Potato Salad
Cherry tomatoes		Ranch	
Broccoli		Raspberry Poppy Seed Vinaigrette	
Diced Chicken			
Grated Cheese			
Pine Nuts			

Fruit Salads	Assorted Salads	
Waldorf	Caesar Salad	Coleslaw
Mixed Berry	Cucumber and Onion Salad	
	Tuna Salad	
	Oriental Chicken	

6.14.6. Bread Brainstorming Chart

Bread is available in a vast number of styles, flavors, grains and textures. Consider using different toppings to serve with the bread.

Breads	Breads	Toppings
Sour Dough	White Pan Bread	Roasted Garlic
Focaccia	Sub rolls	Tapenade
Cloverleaf Rolls	Biscuits	Infused Olive Oil
Bruschetta		Sun Dried Tomatoes
Asiago Cheese Bread		
French Bread Baguettes		

6.15. Breakfast Brainstorming

Breakfast will be easier to plan since many of the menu items will be served daily and become standard on the breakfast plan. Breakfast should have something from each of the following categories:

a. Eggs to Order (include on every breakfast menu); may include omelets. If omelets are not offered in the eggs to order, then include omelets as an entrée twice a week.

b. Meats

c. Starches (non-cereal)

d. Assorted Hot and/or Dry Cereal

e. Assorted Breads

f. Fresh Fruit

g. Coffee, Tea, Juice, Milk

6.15.1. Egg Brainstorming Chart

Denver Omelets	Egg Sandwich	Eggs Benedict
Quiche	Egg Breakfast Burrito	Underway Eye Opener
Frittata	Hard Boiled Eggs	
Assorted Omelets		
Poached Eggs		

6.15.2. Breakfast Meat Brainstorming Chart

Breakfast provides a great opportunity to utilize extra unused meats.

Bacon	Creamed Beef	Sausage Patties
Sausage Links	Scrapple	Spam
Canadian Bacon	Corned Beef Hash	

6.15.3. Breakfast Starches (Non-Cereal) Brainstorming Chart

Hash Brown Potatoes	Potato Pancakes	Polenta
Home Fried Potatoes		

6.15.4. Hot and Cold Cereal Brainstorming Chart

Oatmeal	Granola	Puffed Rice
Grits	Corn Flakes	Assorted Cold Cereals
Farina	Rice	Cream of Wheat

6.15.5. Breakfast Bread Brainstorming Chart

Pancakes	Danish Pastry	Bagels
Waffles	Cinnamon rolls	Biscuits
French Toast	Doughnuts	Croissants
English Muffins	Assorted Sliced Breads	Blueberry Muffins
	Blueberry Muffins	

6.15.6. Fresh Fruit Brainstorming Chart

Bananas	Avocado	Canned Fruit
Cantaloupes	Papaya	Fruit Salad
Honey Dew	Mango	Blueberries
Grapes	Pineapple	Oranges
Strawberries	Dried Fruit	

6.15.7. Additional Items and Condiments Brainstorming Chart

Additional Items	**Condiments**	**Condiments**
Yogurt	Jelly	Maple Syrup
Cottage Cheese	Cream Cheese	Sour Cream
Apple Sauce	Hot Sauce	Butter
Breakfast Gravy	Syrup	Catsup
Hollandaise Sauce	Salsa	

6.16. Brunch

A brunch is not breakfast nor is it lunch. Brunch is something of each of these meals, yet it has its own special identity. The distinguishing features of brunch are time or service, and the special-occasion, leisurely atmosphere that accompanies this meal. The brunch meal is intended as a particularly pleasurable occasion because it is served between breakfast and lunch usually on Sundays and holidays with a number of extra touches.

Brunch menus need not be elaborate and lengthy to be attractive and satisfying.

Imagination is the major key to successful brunch menus. Select luncheon entrees with "staying power" that combine easily and appetizingly with breakfast foods.

Avoid overtaxing the cooking and serving facilities and personnel by planning brunch menus which do not require too much oven space. Cooked-to-order foods are especially appropriate for brunch meals.

6.17. Open Galley

Use a chart similar to the one below to create an open galley menu showing items that will be available for the crew to prepare in the absence of the FS. This menu may be integrated into the weekly menus or posted separately. In either case it must be approved by the Commanding Officer and the Food Service Officer.

ENTREES	STARCHES	VEGETABLES
Frozen Pizza	Baked Potato	Corn on the cob
Hot Dogs / Hamburgers	French fries	Fruit Salad
Lasagna	Tater tots	Bagged Salads
T- Bone Steaks	Rolls	Relish Tray
Prepared Quiche		
Meat Loaf		
Assorted Lunch Meats		

6.18. Finishing the Menu

a. Use the 21 day calendar that was created to complete the cycle menus. Several formats already exist for menus; easily create one using an Excel spreadsheet or Word table.

b. Check for product color, texture and variety. Draw upon the menu development considerations listed previously.

c. Use adjectives to describe the food on the menu; be specific (this will aid in completing a shopping list). For example: Red Potato Hash Browns and Apple wood Cured Bacon have greater appeal than generic descriptions and aid completing the load list.

   NOTE: Items not listed on the menu or not required as ingredients are not authorized to be purchased.

6.19. Costing the Menu

In order to prevent over-expenditures of the total operating allowance it is imperative to cost the weekly menus. This is done by costing the individual recipes that compose the weekly menu.

Below is an example of how to cost an individual recipe:

Recipe: American Chop Suey Yield: 6 Portions

16 oz. Ground Beef

8 oz. Elbow Macaroni

8 tbsp Onion

12 tbsp Green Bell Peppers

16 oz Spaghetti Sauce

6 oz Shredded Cheddar Cheese

a. Begin by converting recipe to yield one portion.

   This is accomplished by dividing each ingredient by the number of portions to be prepared (in this case the recipe yields 6 portions).

Ingredient	**/6**	**= Ingredient Measurement**
1 lb. Ground Beef	/6	= 2.67 oz
8 oz. Elbow Macaroni	/6	= 1.33 oz
8 tbsp Onion	/6	= 1.33 Tbsp
12 tbsp Green Bell Peppers	/6	= 2 Tbsp
16 oz Spaghetti Sauce	/6	= 2.67 oz
6 oz Shredded Cheddar Cheese	/6	= 1 oz

b. Find the Unit of Issue price on the stock card for each ingredient.

   Example Ingredient: Ground Beef

   The unit of issue price for one (1) lb of ground beef is $2.25.

c. Convert Unit of Issue to the same unit of measurement as the ingredient in the recipe (which in this case is oz)

   Example: 1 lb = 16 oz

d. Divide the Unit of Issue Price by the Converted Unit of Issue. The result will be the price for the unit of measurement in the ingredient.

   Unit of Issue Price / Converted Unit of Issue = Price per oz

   $2.25 / 16 oz = $0.14 062 or **$0.14**

e. Compute the result by multiplying the price per Unit of Measurement (price per ounce in this case) by the Ingredient Measurement. The result will be the Individual Ingredient Cost.

Price per oz	**x**	**Ingredient Measurement**	**= Individual Ingredient Cost**
$0.14	x	2.67 oz	= $0.3738 or $0.37

Example: Onion

a. Find the Unit of Issue price on the stock card

Unit of Issue price for one 20 lb bag of onions is $20.00.

b. Convert Unit of Issue to the same unit of measurement as ingredient (which in this case is tbsp)

c. Since each bag is in lbs it will be necessary to weigh the 1.33 tbsp of onions.

1.33 Tbsp = 0.45 oz.

In this example there is a second conversion.

d. The price of onions must be converted from lbs to oz. A 20 lb bag of onions cost $20.00. To convert to price per ounce multiply 20 lbs by 16 oz = (320 oz) and divide $20.00 by 320 oz. Each ounce cost $0.0625 or 0.06.

Unit of Issue	x	Desired Unit of Issue	= Converted Unit of Issue
20 lbs	x	16 oz	= 320 oz

e. Divide the Unit of Issue Price by the Converted Unit of Issue. The result will be the price of the unit of measurement in the ingredient

Unit of Issue Price	/ Converted Unit of Issue	= Price per oz
$20.00	/ 320 oz	= $0.0625 or 0.06

f. Compute the result by multiplying the price per Unit of Measurement (price per ounce in this case) by the Ingredient Measurement. The result will be the Individual Ingredient Cost.

Price per oz	x	Recipe Ingredient Measurement	= Individual Ingredient Cost
$0.06	x	0.45 oz	= $0.027 or $0.03

Use the worksheet below to complete the costing of each individual ingredient used. The sum total of all of the ingredients will be the total cost per portion.

Recipe Costing Sheet

Recipe Name: American Chop Suey

Standard Yield: 1 Portion

Menu Category: Beef Entrée

Portion Size: 8 oz

Ingredient Measurement	Ingredient	Unit of Issue Price	Price for Unit of Measurement of the Ingredient	Individual Ingredient Cost
2.67 oz	Ground Beef	$2.25 per lb	$0.14 per oz	$0.37
0.45 oz	Onions	$1.00 per lb	$0.06 per oz	$0.03
1.33 oz	Elbow Macaroni	$0.55 per lb	$0.02 per oz	$0.03
0.51 oz	Green Bell Peppers	$2.67 per lb	$0.17 per oz	$0.09
2.67 oz	Spaghetti Sauce	$1.00 per lb	$0.06 per oz	$0.16
1 oz	Shredded Cheddar Cheese	$4.25 per lb	$0.27 per oz	$0.27
			Total Individual Portion Cost	**$0.95**
			X Number of Servings	**25 patrons**
			Total recipe Cost	**$23.75**

7. Work Flow Planning

7.1. Special Events Work Flow Planning

Special events are functions that are performed outside typical food service daily operations. Examples include Change of Command, Receptions, Morale events, etc. The role of the Food Service Division in these functions is critical.

7.2. Key Elements of a Work Flow Plan

a. Type of Event. The type of event may dictate many requirements and elements that are necessary to host a successful event

b. Budget

   1) Determine how much money is available to work with.

   2) Menu costing.

   3) Headcount (estimate attendance).

c. Identify Project Officer (PO)

   1) PO provides interface with command.

   2) Determine expectations plus scope of responsibilities.

   3) Identifies resource management and allocations (i.e., tables, chairs, decorations, tents, awnings).

   4) If no PO available, seek guidance from the Executive Office or Executive Petty Officer (XO or XPO).

d. Guests (who, how many, when)

   1) PO provides input or verify with XO

   2) Arrival time/start time

   3) Special needs (allergies, accessibility, cultural/social protocols)

e. Menu

   1) Determined by budget, availability, storage, equipment, location, levels of FS experience, type of service/event expected etc.

   2) Entrée/special dishes list

   3) Appetizer list

   4) Beverage list

   5) Recipe source

f. Location(s)

   1) Indoor/outdoor

   2) Afloat/ashore

   3) Location relative to prep area

4) A/C power
5) Fuel sources
6) Lighting
7) Refuse control
8) Potable water
9) Restrooms

g. Presentation Elements
   1) Festive/traditional props/decorations/displays
   2) Garnishes
   3) Lighting
   4) Printed menu
   5) Printed place settings
   6) Entertainment

h. Work Flow Plan Worksheet
   1) A work flow plan defines what to do, when to do it and whom does what.
   2) For an example of a workflow plan worksheet see Figure 7-1.

i. Available personnel/ Experience levels
   1) FS staffing; place people in jobs they are most experienced at
   2) Supplemental FS staff (TAD, volunteers)
   3) Non-FS (set-up, wait staff, security, clean-up)
   4) Appropriate uniforms

j. Protocol, Customs and Courtesies
   1) Seating arrangement
   2) Rank or title of attendees
   3) Geographical, social/cultural, political, religious, ethnic considerations

k. Logistics
   1) Source of supply: food, non-food
   2) For deployed units, recommend utilizing Defense Attaché Officer/ Husbanding Agent, Servicing ISC, SECTOR, etc., to acquire supplies and services. Time permitting, recommend contacting above sources well in advance of planned event.
   3) Refer to reference (e) for information on husbanding agents.
   4) Storage: Hot/Cold/Dry
   5) Transportation: Effect on arrival of participants/effect on food or equipment

6) Work space/location
7) Equipment
   a) Food Preparation
      (1) Heat source
      (2) Chill source
      (3) Work tables

   Food preparation equipment
   b) Food Service
      (1) Beverage service
      (2) Serving equipment
      (3) Tables/ chairs, settings, linens, glassware, flatware and plate ware
   c) Safety Equipment
      (1) Fire extinguisher
      (2) GFI extension cords
      (3) Safety brief
      (4) Appropriate PPE
8) Funding
   a) Identify funding source(s)
   b) For specific guidance regarding the use of SF-82 funds see reference (d)
   c) Unit representational funds
   d) Morale funds
   e) Personal funds
   f) XXF funds
   g) AFC 30 funds (i.e. ethnic meals)
   h) Decommissioning of unit
9) Environmental conditions
   a) Time of day
   b) Season
   c) Conflicts with crew mealtime
   d) Work hours
   e) Duration
   f) Comfort requirements (heating, cooling, shade, fans, tent/canopy, etc)

7.3. Events Often Associated with Work Flow Planning

a. Change of Command
b. Reception (Commission of unit, VIP Diplomatic, Retirement, Foreign Port Call)
c. Community events
d. Moral event
e. Captain's events
f. Holiday meals
g. Ethnic meals

7.4. Work Flow Plan Worksheet

Figure 7-1 shows a sample work flow plan worksheet. The worksheet **is not** all-inclusive to every special event; it is an example of what may be required. It is up to the individual to develop an appropriate work flow plan for the event they are tasked with coordinating.

Figure 7-1

Activity	Actor(s)	Days Before Event					Day of	Hours Before Event						Minutes	
		14	10	7	3	1	Event	12	8	4	3	2	1	30	15
Meet with PO or XO; Identify Type of Event, Budget, Funding, Guests and Protocol, Menu, Location, Presentation Elements, Staffing, any Possible Show Stoppers	FSCS LEMELIN CWO2 NIBLETT	X													
Build Staffing Plan	FSCS LEMELIN	X													
Secure Production and Service Staff	FSCS LEMELIN	X													
Choose Recipes	FSCS LEMELIN	X													
Determine serving platter and serving utensil requirements	FSCS LEMELIN	X													
Order linens, tables, chairs, plates, glasses, and cutlery	FS1 TOLBERT	X													
Build grocery list	FSCS LEMELIN FS1 PADILLA	X													
Submit to Jack of the Dust	FS1 PADILLA	X													
Send menu to print shop	FS1 PADILLA		X												
Send place cards to print shop	FS1 PADILLA		X												

Activity	Actor(s)	Days Before Event					Day of	Hours Before Event						Minutes	
		14	10	7	3	1	Event	12	8	4	3	2	1	30	15
Start seating chart	FS1 GORDY CWO2 NIBLETT		X												
Order required items not found in stores	FS2 LUKE		X												
Create production plan	FSCS LEMELIN FS1 FELLION		X												
Meet with production staff	FSCS LEMELIN		X												
Meet with service staff	FS1 RUSSELL		X												
Arrange transportation for staff, food and equipment	FSCS LEMELIN		X												
Meet with Jack of the Dust	FSCS LEMELIN FS1 PADILLA			X											
Solidify seating chart	CWO2 NIBLETT			X											
Meet with Jack of the Dust	FSCS LEMELIN FS1 PADILLA				X										
Refine seating chart	FS1 PADILLA CWO2 NIBLETT				X										
Mise en Place	FS1 WHITE-GONZALEZ					X									
Pick up transport vehicle	FS1 PADILLA					X									
Prep (depending on products, items may be prepped at an earlier date)	FS3 DOWNS FS3 REED					X									
Bake (depending on products items may be baked at an earlier date)	FS2 BEASLEY SN BUKOWSKI					X									

Activity	Actor(s)	Days Before Event					Day of	Hours Before Event						Minutes	
		14	10	7	3	1	Event	12	8	4	3	2	1	30	15
Confirm head count	CWO2 NIBLETT					X									
Polish stemware and cutlery	SN ROYES					X									
Pack up equipment	FS2 LUKE SN ZIMMERMAN SN O'NIELL SR GARRETT					X									
Arrive at event site	FSCS LEMELIN FS2 BEASLEY FS3 DOWNS FS3 REED SR GARRETT									X					
Unpack vehicle	FS1 PETRO SN ZIMMERMAN SR GARRETT									X					
Begin additional prep and any cooking	FS2 BEASLEY FS3 DOWNS									X					
Chill cold beverages	FS2 MELENDEZ									X					
Place tables, chairs and refuse containers	FS1 PADILLA SN ZIMMERMAN SN O'NEILL									X					
Drape linens	SN STAGE SR GARRETT										X				
Set tables	FS1 PADILLA SN ZIMMERMAN										X				
Set up bar	FS2 DUCHOSSOIS										X				
Feed staff	FS3 DOWNS FS3 REED										X				
Assemble cold hors d'oeuvres	FS2 BEASLEY											X			
Meet with service staff	FSCS LEMELIN												X		

Activity	Actor(s)	Days Before Event					Day of	Hours Before Event						Minutes	
		14	10	7	3	1	Event	12	8	4	3	2	1	30	15
Fill and start coffee urns	FS2 SWENSON												X		
Set out coffee	FS2 LUKE												X		
Walk through	FSCS LEMELIN												X		
Preset Buffet tables	FS1 PADILLA SN ROYES SA GARRETT													X	
Set out beverages	FS2 LUKE													X	
Plate cold hors d'oeuvres	FS2 INGRAM													X	
Plate hot food	FS3 DOWNS FS3 REED														X
Place foods on buffet tables	FS2 LABRECQUE														X
Walk through	FSCS LEMELIN														X

Activity	Actor(s)	During The Event
Replenish Buffet Tables	FS1 D'AMICO	X
As needed; clean-up spills, empty refuse containers, bus tables	SN ZIMMERMAN SN KADI SR GARRETT	X

Activity	Actor(s)	After The Event
Secure all gear for transportation	FS STAFF AND DUTY SECTION	X
Unpack vehicle	FS STAFF AND DUTY SECTION	X
Secure all gear	FS STAFF	X

Figure 7-2

Example of Change of Command Menu

COMMANDANT CHANGE OF COMMAND MENU

Chinese Style Chicken and Cashew Salad

(Chicken breasts marinated in a mixture of soy sauce, garlic, rice vinegar then grilled and diced; mixed with roasted cashews, red cabbage, Asian noodles, onions, cilantro, tossed with a ginger-sesame vinaigrette)

Sea Scallops Wrapped in Bacon

(Succulent scallops gently wrapped in bacon and baked)

Antipasto Skewers

(Skewered Mozzarella cheese, sun-dried tomatoes, artichoke hearts, and kalamata olives served with a basil-infused extra virgin olive oil)

Blackened Chicken Sate

(Cajun-spiced chicken tenders)

Smoked Salmon Fillets and Specialty Crackers

(Salmon fillets hot smoked and serve with a variety of crackers)

Vegetable Crudités

(Assortment of fresh vegetables served with a creamy dip)

Southwestern Chicken & Black Bean Salad

(Chicken breast seasoned with cumin and chili powder, grilled, diced, then tossed with black beans, roasted corn, diced jicama, shredded cabbage, fresh cilantro and a chipotle creamy dressing)

Beef Teriyaki Brochettes

(Tender bite size pieces of beef tenderloin skewered with mushrooms and sweet bell peppers and glazed with teriyaki sauce)

Fruit and Cheese Displays

(A display of seasonal fruit and a variety of cheeses)

Ceremonial Cake

(A moist vanilla cake decorated for the occasion)

Cappuccino Mousse on Chocolate Cups

(Milk chocolate cups filled with a coffee mousse)

Bottled Water, Chilled Punch

8. WARDROOM SERVICE

8.1. Introduction

The Wardroom (WR) is a multipurpose area used for dining and also as the officer's lounge.

8.2. Standard Operating Procedures (SOP)

Each unit shall develop/prepare a Standard Operating Procedure (SOP) with regard to their wardroom. The SOP should contain, at a minimum, the below listed items.

a. Seating protocols

b. Serving styles

c. Table settings

d. Meal times

e. Meal sign-up procedures

8.3. Table Setting

When FS personnel are assigned to the WR they are responsible for setting the tables for meals and following the approved seating list. They are also responsible for quiet and efficient table service throughout the meal. This section discusses each of these responsibilities.

Setting a table correctly helps to avoid confusion at meals and gives the table a neat appearance.

The Coast Guard provides silver and china for Wardroom service. There are two kinds of silver; hollow ware and flatware. Hollow ware consists of serving pieces such as platters, bowls and pitchers. Knives, forks and spoons are flatware; they are also called flat silver.

a. The salad plate may also be used as a bread and butter plate and as a dessert plate.

b. Meals for special occasions require more formal settings than every day meals.

c. For all meals, knives and spoons are placed to the right of the plate. Knives are laid with the cutting edge toward the plate, and spoons with the insides of the bowls up. Forks, except the oyster fork, are placed to the left. The oyster fork is placed to the right of the spoons. The silver is placed according to the order it is to be used. The silver to be used first is placed farthest from the plate. Usually no more than six pieces of silver are set at one cover (place setting). Other silver may be brought in when later courses are served.

d. A properly set table provides a pleasant background for a meal. An attractively set dining table contributes to the enjoyment of the meal. There is basically little difference between a formal and an informal table setting.

Figure 8-1 is a collection of silver and china available for Coast Guard Wardroom service.

Figure 8-1

WARDROOM CHINA

FSC	NIIN	Nomenclature	UI	Maximum Issue Quantity	Description
7350	001867895	SAUCER COFFEE OFCR ME	DZ	4	COFFEE SAUCER, APPROX. 6 INCH, OFFICER'S MESS. HOTEL WEIGHT, IVORY WITH ROLLED EDGE AND WIDE RIM
7350	002223194	CUP COFFEE OFCR MESS	DZ	4	OFFICERS' MESS COFFEE CUP. APPROXIMATELY 8 OUNCES. HOTEL WEIGHT, IVORY, BOSTON SHAPE
7350	01GG00951	PLATE BREAD OFCR MESS	DZ	2	OFFICERS' MESS BREAD & BUTTER PLATE. APPROXIMATELY 6 1/4 INCHES. HOTEL WEIGHT, IVORY WITH ROLLED EDGE AND WIDE RIM WITH DISTINGUISHING MARK
7350	01GG00952	PLATE BREAKFAST OFCR	DZ	2	OFFICER'S MESSPLATE BREAKFAST,APPROX. 9 INCH
7350	01GG00953	PLATE DESS/SALAD OFCR	DZ	2	OFFICERS' MESS DESSERT/SALAD PLATE. HOTEL WEIGHT, IVORY, WITH ROLLED EDGE AND WIDE RIM
7350	01GG00954	PLATE DINNER OFCR MES	DZ	2	OFFICERS' MESS DINNER PLATE. APPROXIMATELY 9 5/8 INCHES. HOTEL WEIGHT, IVORY WITH ROLLED EDGE AND WIDE RIM.
7350	01GG00955	BOWL,CEREAL 7"	DZ	2	OFFICERS MESS CEREAL BOWL. APPROXIMATELY 7 INCHES IN DIAMETER. HOTEL WEIGHT, IVORY, ROLLED EDGE AND WIDE RIM
7350	01GG00956	BOWL SOUP 9IN OFCR MS	DZ	2	OFFICER'S MESS 9 INCHSOUP BOWL. HOTEL WEIGHT, IVORY WITH ROLLED EDGE AND WIDE RIM

SILVER SERVICE

FSC	NIIN	Nomenclature	UI	Maximum Issue Quantity	Description
7350	002729491	TUREEN SOUP SILVER	EA	NO RESERVE	40 OUNCE SILVER-PLATED SOUP TUREEN W/COVER, ROLLED EDGE, WITH DISTINGUISHING MARK
7350	010933278	CASTER OIL&VINGR OFCR	EA	NO RESERVE	SILVER PLATED OIL AND VINEGAR CRUET SET
7350	010934670	BOWL SOUP SILVER 100 OUNCE	EA	NO RESERVE	100 OUNCE SILVERPLATED SOUP BOWL WITH DISTINGUISHING MARK AND SILVERPLATED COVER.
7350	010934671	PITCHER CREAM SILVER	EA	NO RESERVE	8-OUNCE CREAM PITCHER WITH U.S. COAST GUARD DISTINGUISHING MARK. PITCHER WITHOUT COVER
7350	010934674	DISH OVAL 16IN SILVER	EA	NO RESERVE	16 INCH SILVER-PLATED OVAL PLATTER, WITH OVAL GADROON MOUNT, AND ENGRAVED WITH THE COAST GUARD SHIELD.
7350	010953647	DISH OVAL 14IN SILVER	EA	NO RESERVE	SILVERPLATED 14.5 INCH OVAL PLATTER WITH OVAL GADROON MOUNT AND DISTINGUISHING MARK
7350	010974462	DISH VEG&CVR 8IN SILV	EA	NO RESERVE	19 OUNCE, 8 INCH VEGETABLE DISH WITH COVER AND DISTINGUISHING MARK
7350	011405507	POT COFFEE/TEA SILVER	EA	NO RESERVE	SILVER-PLATED 32 OZ COFFEE POT WITH DISTINGUISHING MARK

7350	011857677	BOWL SUGAR SILVER	EA	NO RESERVE	8 OZ SILVER-PLATED SUGAR BOWL WITH HANDLES AND COVER WITH DISTINGUISHING MARK
7350	011992492	PITCHER WATER SILVER	EA	NO RESERVE	SILVERPLATED, 60 OUNCE, WATER PITCHER WITH ICE GUARD AND DISTINGUISHING MARK.
7350	01GG00946	TRAY BREAD SILVER	EA	NO RESERVE	12 INCH SILVER-PLATED BREAD TRAY WITH DISTINGUISHING MARK
7350	01GG00947	TRAY WAITER 12IN SILV	EA	NO RESERVE	SILVERPLATED, 12 INCH, ROUND, TRAY WITH 'OVAL GADROON' APPLIED MOUNT AND DISTINGUISHING MARK.
7350	01GG00948	TRAY WAITER 18IN SILV	EA	NO RESERVE	18-INCH SILVER-PLATED OBLONG TRAY WITH OVAL GADROON MOUNT AND U.S. COAST GUARD DISTINGUISHING MARK.
7350	01GG00949	GRAVY BOAT, SILVER	EA	NO RESERVE	12 OZ SILVER-PLATED SAUCE BOAT WITH DISTINGUISHING MARK
7350	01GG00950	DISH VEG 10IN SILVER	EA	NO RESERVE	10 INCH OVAL SILVER PLATED VEGETABLE DISH WITH ROLLED EDGE AND WITHOUT COVER; 40 OZ CAPACITY WITH DISTINGUISHING MARK

WARDROOM SILVER

FSC	NIIN	Nomenclature	UI	Maximum Issue Quantity	Description
7340	013717858	SPOON SUGR/BOUIL SILV	DZ	1	SILVERPLATED SUGAR/BOUILLON SPOON WITH DISTINGUISHING MARK.
7340	01GG00934	FORK DESSERT SILVER	DZ	4	SILVER PLATED DESSERT FORK WITH DISTINGUISHING MARK
7340	01GG00935	SPOON TEA SILVER	DZ	NO RESERVE	SILVER PLATED TEASPOON WITH DISTINGUISHING MARK
7340	01GG00936	FORK OYSTER SILVER	DZ	NO RESERVE	SILVER PLATED COCKTAIL/OYSTER FORK WITH DISTINGUISHING MARK
7340	01GG00937	FORK TABLE SILVER	DZ	2	SILVER PLATED DINNER FORK WITH DISTINGUISHING MARK
7340	01GG00938	KNIFE DES/BUTTER SILV	DZ	2	SILVER PLATED UTILITY/DESSERT KNIFE WITH DISTINGUISHING MARK
7340	01GG00939	KNIFE TABLE SILVER	DZ	RESTRICTED/ 2	SILVER PLATED DINNER KNIFE WITH DISTINGUISHING MARK
7340	01GG00940	SPOON SOUP/DESS SILV	DZ	2	SILVER PLATED DESSERT SPOON WITH DISTINGUISHING MARK.
7340	01GG00943	SPOON TABLE/SERV SILV	DZ	2	SILVER PLATED TABLE SPOON WITH DISTINGUISHING MARK.
7340	01GG00945	NUTCRACKER SILVER	EA	NO RESERVE	SILVER PLATED LOBSTER CRACK/NUT CRACKER.

8.4. Informal Table Setting Procedures

Informal service is when food is placed in serving dishes on the table and individuals serve themselves. This is also known as “family style”.

Setting the Cover/Family Style Service:

a. The Cover. The number of dishes and pieces of silver necessary for a cover depend on the occasion and menu. Every day meals require fewer dishes and silver than formal meals. Always check the menu before setting the table. See Figure 8-2

b. Dinner or Service Plate. The dinner plate is the center of the cover for meals. Place it directly in front of a chair and about one inch from the edge of the table. The ideal spacing of plates for family style or formal occasions is 24 inches from plate center to plate center. This is close enough to permit easy conversation and provides enough room for each individual diner.

c. Bread and Butter Plate. Place the bread and butter plate, when used, to the left of the dinner plate, above the fork prongs.

d. Water Glass. Place the water glass to the right of the dinner plate, above the knife point.

e. Coffee Cup. When used, place the coffee cup on the table to the right of the water glass or lower right next to the spoon.

f. Napkin. Place the napkin, either cloth or paper, to the left of the forks or on the dinner plate.

After all covers are set, check the table once again to ensure all covers are alike and nothing was omitted. Be certain spoons are laid with bowls up and that the cutting edges of knives are turned toward the plate. Place the chairs so the front edges of the seats are just against or under the drop of the tablecloth.

Figure 8-2

Informal Setting (Breakfast)

Informal Setting (Lunch)

Typical Setting

8.5. Formal Table Setting

A formal table setting is a little different from the informal table setting, see Figure 8-3. Often candles are used on the table (ashore) with a centerpiece of flowers, fruit or some other attractive arrangement. Place cards may be used to show where people will sit. Menu cards are often provided with this setting. The cards are placed according to the seating list for the meal. When formal service is used, all food is plated and served to each attendee.

a. Table Decorations. Simple table decorations, when available, are appropriate for almost any meal. For special occasions use flowers or other decorations. Decorations, chosen must be in harmony with the table setting and the formality of the meal.

   A centerpiece adds much to the attractive appearance of any table. A small decoration will usually suffice for informal table settings. The purpose of an ornament is to add eye appeal to a table.

b. Preparation Prior To Seating Personnel. Some details that must be taken care of just before members are seated include, but are not limited to:

   a. Fill water glasses.

   b. Arrange butter patties on small plates.

   c. Ensure beverage service is available (fresh coffee, tea, etc.).

   d. Place individual salads on the table just before the attendees are seated.

   e. Ensure condiments are available

   f. Place the buck, if used, at the appropriate / designated place on the table.

   Procedure to follow when the “Buck” is used. When there are no guests, officers have regular places at lunch and dinner. At these times they take turns being served first. Each WR selects some object, called the "buck" to show which officer is served first at a particular meal. The supervisor must ensure the buck is set at the proper place. At breakfast officers do not sit at their regular places so the buck is not used.

Figure 8-3

Formal Setting

9. WARDROOM SEATING

There are certain rules for WR seating. Officers are assigned regular places for lunch and dinner when there are no guests. When guests are present, the seating arrangement may be adjusted. It depends on whether the visitor is a guest of the ship or the guest of an individual. It also depends on whether there are one or more guests. Seek unit specific guidance and/or FS division SOP.

a. Daily seating.

   1) At lunch and dinner when there are no guests, officers typically sit at assigned places.

   2) The senior officer determines the seating arrangement. Typically, the officer next in seniority sits to the right of the senior officer. The third in seniority sits to the left of the senior officer, and so on, from right to left, down the table.

   3) If the senior officer is absent, the officer who is next in seniority sits at the head of the table. If there is just one table, the treasurer sits opposite the senior officer. If there is more than one table, the treasurer usually sits at the head of the second table. These two officers sit at their assigned places at daily meals and when there are guests.

   4) At daily meals other officers are seated around the table according to precedence. The highest ranking officer sits near the head of the table. Officers who have the same rank are seated according to their dates of rank; the officer who has been in the grade the longest sits nearer the head of the table.

   5) When there are two or more tables, the most senior officers sit at the first table and the junior officers at subsequent tables.

   6) When officers of the various services have the same relative grade and the same date of rank, they have precedence according to the time each has served on active duty as a commissioned officer of the United States military services.

   A table showing the relative rank and precedence of officers of the various military services may be found in Figure 9-1.

b. Seating guests.

   1) When senior officers are invited for an occasional meal, they are considered guests of honor and are seated as such.

   2) The seating arrangement changes when a guest is present. If the visitor is a guest of the ship, the visitor sits to the right of the senior officer. If the visitor is a guest of an individual officer, regardless of rank, the guest sits to the right of that officer.

   3) When two or more guests of ward room members are present, each guest sits to the right of the host. When there are guests, members move down to other places to make room for them.

Figure 9-1

Relative Rank and Precedence of Officers in Military Services

Coast Guard	Navy	Marine Corps	Army and Air Force	Public Health Service	Coast and Geodetic Survey
	Fleet Admiral		General of the Army		
Admiral	Admiral	General	General		
Vice Admiral	Vice Admiral	Lieutenant General	Lieutenant General		
Rear Admiral (upper half)	Rear Admiral (upper half)	Major General	Major General	Surgeon General	
				Deputy Surgeon General	
Rear Admiral (lower half) and Commodore	Rear Admiral (lower half) and Commodore	Brigadier General	Brigadier General	Assistant Surgeon General	Rear Admiral
Captain	Captain	Colonel	Colonel	Medical Director	Captain
Commander	Commander	Lieutenant Colonel	Lieutenant Colonel	Senior Surgeon	Commander
Lieutenant Commander	Lieutenant Commander	Major	Major	Surgeon	Lieutenant Commander
Lieutenant	Lieutenant	Captain	Captain	Senior Assistant Surgeon	Lieutenant
Lieutenant (jg)	Lieutenant (jg)	First Lieutenant	First Lieutenant	Assistant Surgeon	Lieutenant (jg)
Ensign	Ensign	Second Lieutenant	Second Lieutenant	Junior Assistant Surgeon	Ensign

c. Serving from the proper side
   1) Serve all foods from the left side of the patron.
   2) Serve all beverages from the right.
   3) Stand to one side to avoid hitting an officer or guest or spilling food.

d. Removing the dishes
   1) Ensure the officer or guest has finished eating; never make anyone at the table feel rushed.
   2) Remove all dishes from the right side. When everyone has finished the main course, remove the salt and pepper, other condiments, etc.
   3) Leave the coffee cup and water glass until the officer or guest has left the table.

10. HUMAN RESOURCE AND STAFFING CONSIDERATIONS (MANPOWER)

10.1. General

People are the single most important resource in the Coast Guard Food Service Rating and good leadership requires efficient utilization and effective management of our human resources. This chapter discusses important factors of our human resource and staffing management, methods for evaluating job requirements and the relationship between job and resource.

10.2. Human Resources and Staffing Consideration Management

CGDFs are expected to maintain the traditional fine quality of Coast Guard food service offerings and also place special emphasis on quality customer service for dining facility patrons. With limited Food Service personnel resources, Coast Guard high quality standards are accomplished through efficient management and utilization of available resources. This requires an efficiently organized system to schedule work with regard to resource level of ability, experience, skills and non-food service workload.

There are three basic areas that need to be considered in maximizing human resource management:

a. Evaluation of factors impacting human resource utilization and staffing considerations. Some factors affecting the utilization of human resources are:
    1) FS proficiency
    2) Timing of supply delivery
    3) Unit drills
    4) Unit training
    5) Staff absences
    6) Staff transfers
    7) Schedule of unit operations
    8) Staff members not fit for duty (NFFD)
    9) Equipment availability
b. Techniques to improve work flow and performance, often referred to as "work simplification"
c. Work scheduling

By periodically assessing conditions in these three areas, the supervisor will be able to improve staff utilization and work place efficiencies. First line supervisors, galley watch captains, etc., are responsible for dining facility planning and transmitting direction to cooks and attendants within the individual functional areas; they are not in a position to assess the total food service operation (system). The allocation of additional resources and the basic human resource control for the dining facility is solely the responsibility of top management.

Regardless of adequate staffing levels, FSs and mess attendants must know what is expected of them. Supervisors should develop production objectives and work tasks for all levels and translate them

into daily plans. Summarily, supervisors shall establish management control to ensure all available work hours are used to the best possible advantage.

Although the guidance in this chapter is general, the principles can be applied as appropriate, dependent on the local situation.

10.3. General Evaluation Factors

There are many time-loss factors inherent in any food service operation. However, the major factor contributing to time loss is poor management planning. Poor management planning results in:

a. Poorly planned menus

b. Failure to follow recipe cards

c. Poor requisitioning

d. Inadequate production planning

e. Inefficient production techniques

f. Waiting for food to be delivered

g. Shortage of equipment and/or utensils

h. Performing work in the wrong sequence

i. Waiting for a work assignment in a functional area

j. Lack of instructions

k. Overstaffing in one functional area and understaffing in another

l. Using spaces not actually required

Much research has been done in the area of management efficiencies. This research considered facility layout, operating conditions, number of meals served, productivity requirements and equipment use to produce industry standards for staffing levels. These standards prescribe staffing ratios onboard, (e.g., one FS or mess attendant for every predetermined number of personnel). However, standards can be misleading and may not apply to today's needs given the optimal crew concept, increased operational tempo (OPTEMPO), mission requirements, new ships, varying layouts and operating conditions.

The FS department and the command will work together to achieve as much flexibility as possible in meeting various dining facility staffing needs. Periodic evaluation of staffing utilization with a progressive look toward adding additional staff and eliminating duplication of efforts will ensure effective ratios for maximum productivity.

10.4. Work Simplification Techniques

The objective of effective Dining Facility human resource management is to maintain maximum productivity without lowering the quality of food service. As discussed above there are opportunities through menu planning and meal preparation, equipment utilization and dining facility operations to raise quality and lower inefficiencies. Another way to raise productivity is through the use of an approach referred to in industrial engineering as "work simplification." This term refers to the arrangement of tools, equipment, materials and workers in a job to enable workers to achieve a high rate of production with minimum expenditures of energy and time. Also, we can expedite or

simplify a job by defining productive and non-productive aspects of a task and then eliminating the non-productive efforts. Work simplification is a matter of organizing the effort with some common sense in mind and trying to find a better or easier way of making maximum use of existing facilities and human resources; it does not necessarily involve working harder or faster. In fact, work finished in a hurry merely speeds up all parts of the job, including those which should be eliminated.

Work simplification does not necessarily mean purchasing different or additional equipment. The proper use of existing equipment often makes it unnecessary to buy additional or expensive utensils and equipment.

Work simplification is a matter of watching personnel performing on the job, analyzing the work and coming up with methods for improving efficiency by eliminating unproductive parts, and then combining and rearranging the remaining productive parts of the job to streamline and create maximum efficiency.

10.5. Summary

Our Coast Guard personnel are the most important asset we have and USCG Food Service leadership realizes that the FS Rating needs to modernize and provide the management tools necessary to maximize efficiency in the dining facility. Appropriate emphasis on our people and resource management ensures effective and efficient dining facility management. Use of the principles in this chapter should provide the tools for assuring effective Human Resource planning. These management principles should be part of daily routine and providing guidelines to enhance effective Coast Guard leadership.