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The Maintenance of Building and Equipment

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7 Evaluating Food Service Establishments...Key Check Points

The Maintenance of Building and Equipment

The manager of a food service establishment and/or the manager and his superior need to take the time to make an overall analysis to determine the results that the organization is actually obtaining. This should be done several times a year. The evaluation should determine how well the food service operation is doing and where improvements should be made. Then some priorities, objectives, methods, and deadlines for improvements can be established.

This is one of a series of pamphlets describing how a person can fairly comprehensively, yet in less than a day, provide an overall evaluation of a food service operation. The key items, or food service conditions, to evaluate under each major category are described. Taken together, the key indicators of general conditions measure the degrees of efficiency (minimal costs) and effectiveness (optimal organizational satisfaction). A major category that has a deficient key indicator should be investigated further, and corrective adjustment should be considered and/or made where appropriate. A discussion of facts by management with the operating personnel is perhaps most needed to develop mutual understanding of the problems. Attainable performance objectives should be jointly established and reviewed at a later date.

If all key indicators are satisfactory in a major category, other aspects of that category are probably being handled with similar care. If all of the key indicators are high, but the profit is not adequate, then it will be necessary to examine the operation for inefficient purchasing and receiving practices, improper menu pricing, inaccurate records or financial statements, inventory method and method of computing the value, production waste, plate waste, security and pilferage, and so forth.

These operational analysis guidelines may be used by the manager of a single food service establishment for self-analysis, or by the unit manager's supervisor.

- 1 Management Planning, Organizing, and Controlling (HE-202)
- 2 Personnel (HE-203)
- 3 Purchasing (HE-204)
- 4 Receiving, Storage, Issuing, Inventory (HE-205)
- 5 Food Preparation (HE-206)
- 6 Food Presentation and Service (HE-207)
- 7 Maintenance of Building and Equipment (this publication)
- 8 Sanitation and Housekeeping (HE-209)
- 9 Statistical and Ratio Analysis (HE-210)
- 10 Consumer Satisfaction (HE-211)

7. Building and Equipment

Maintenance is the upkeep of property and equipment. It prolongs the life of equipment, building, and decor, gives efficient service, and provides a safety factor. The consumer expects good food and service, and comfort in appealing facilities. Food service operators have a great investment in equipment, facilities, decor, and furnishings. There is some complicated mechanical, electrical and even electronic equipment. Besides the equipment and furnishings maintenance, there are plumbing and sanitary systems, electrical installations, heating systems, ventilation and air-conditioning, refrigeration and food storage, elevators, and public address and internal communications.

Preventive maintenance is a system of regular inspection and care of equipment, decor, floor and wall materials, and property before it breaks down or deteriorates.

We will look at some general indicators of building and equipment maintenance, and then at some specific key indicators.

Basic Indicators

Some of the basic questions asked about building and equipment maintenance are:

- Is there someone who can make minor repairs to equipment, building and property?

- Is there an agreement with a factory-trained repairman to do major emergency repair work?
- Are there instruction or service manuals for each piece of equipment? Most manuals provide information concerning needed inspections and their frequency.
- Is there a procedure for an employee to report equipment malfunctions, noises, and other factors that are not right and/or could possibly lead to breakdown? Staff awareness of "something is wrong" is good and should be encouraged. It promotes pride in the work place, particularly when a problem can be solved before it becomes a major repair. When a complaint is made, it should be investigated immediately, corrected on the spot if possible, or scheduled for servicing without delay.
- Are maintenance records analyzed periodically to determine if these are recurring failures? See the illustration of the **Equipment Inventory and Record Card**.
- Are employees trained to operate the equipment properly? Equipment overloading and misuse are major causes of breakdown.
- Is equipment kept clean? Dirt, dust, carbonized food particles, excess frost and litter are prime villains in equipment malfunctioning.
- Has management promoted the right atmosphere for a successful preventive maintenance program? It is up to manage-

ment to promote that atmosphere through stimulating interest in jobs, pride in accomplishment, and encouragement of assistance.

- Is there acknowledgment of staff in a successful preventive maintenance program by keeping records of cost reduction on repairs and increase in productivity due to improved efficiency of equipment?

Specific Indicators

The specific indicators for building and equipment maintenance are preventive maintenance, faucets and tiles, floor drains, thermometers, and thermostats.

Preventive Maintenance—There is need for a planned preventive maintenance program to protect the high investment and to prevent breakdowns during high volume periods. Breakdowns during peak periods will affect the quality of the product, reduce sanitation, and require additional labor or the utilization of substitute products. Equipment should have periodic inspections and servicing, and regular scheduled oiling and greasing of moving parts.

A preventive maintenance program is comprised of four functions: cleaning, inspection, lubrication, and adjustment. Recorded operating experience, equipment manufacturers, and other food service operators can provide information in regard to wear and breakdown points, and weaknesses of each piece of equipment.

EQUIPMENT INVENTORY AND RECORD CARD											
DATE PURCHASED		DATE INSTALLED		COMPLETE DESCRIPTION							
PURCHASE ORDER NO.				MFG. NAME & ADDRESS				REPLACED BY:			
INVENTORY NO.		PURCHASED FROM:									
INSTALLED BY:				LENGTH:		WEIGHT:		WIDTH:			
				DEPTH:				DATE			
PRICE				REPAIRS						INVENTORY	
				COST OF INSTALLATION		SOURCE OF REPLACEMENT PARTS:		DATE		DEPR.	
MODEL NO.				DATE		NATURE		BY WHOM		COST	
SERIAL NO.				DATE		NATURE		BY WHOM		COST	
VOLTAGE		AMPERE		DATE		NATURE		BY WHOM		COST	
WATTS		PHASE		DATE		NATURE		BY WHOM		COST	
ARTICLE						LOCATION					

Faucets and Tiles

No more revealing signs of the degree of building maintenance exist than the condition of the faucets and tiles. If the faucets are leaking, and the floor and wall tiles are broken, chances are that other phases of building maintenance suffer as well.

Floor Drains

If the faucets don't leak and the tiles are not broken, but you seek another indicator, pour some water down a floor drain or two selected at random. If the drains flow freely, this is further assurance of good maintenance practices. If faucets don't leak, tiles are not broken, and drains operate, someone has made some special effort. The employees here are likely to be trained and conditioned to make prompt reports of all defects—and someone has seen to it that correction action has been taken.

Thermometers

Maintenance is an absolute must to long life, good operation, and top economy of every piece of equipment. An almost unfailing indication as to the general condition of equipment is the thermometer on the dishwashing machine.

Thermostats

Grill thermostats can be tested by using surface thermometers and oven thermostats by using thermocouples, which measure temperature differences. If thermometers and thermostats are working properly, probably the mixers, the grinders, and many other items are well maintained.

Summary and Conclusion

Proper maintenance of building and equipment is important from the standpoint of quality food and service, sanitation, safety, fire prevention, and capital and operating expenses.

There are three basic questions to answer:

- Are employees instructed in the proper use of equipment and machinery?
- Are equipment deficiencies promptly reported?
- Are emergency repairs made promptly and efficiently?

A preventive maintenance program for each piece of equipment can be developed with assistance from equipment catalogues and from equipment manufacturers' representatives. Is there a scheduled preventive maintenance program for ranges, ovens, fryers, steamers, dishwashers, steam kettles, refrigerators, waste disposals, slicers, expensive mixers, electrical appliances, air-conditioning equipment, tables and chairs, etc.?

References

Avery, Arthur C. "Institutions and Equipment Maintenance." **Food Service Management**, December 1975, pp. 60+.

Borsenik, Frank R. **Maintenance and Engineering for the Lodging and Food-service Facilities**. East Lansing, Michigan: Educational Institute of the American Hotel and Motel Association, 1975.

Operational and maintenance catalogues from equipment manufacturers.

National Restaurant Association
One IBM Plaza, Suite 2600
Chicago, Illinois 60611

Educational Institute of the
American Hotel and Motel Association
1407 South Harrison Road
East Lansing, Michigan 48823

National Institute for the Food
Service Industry
120 South Riverside Plaza
Chicago, Illinois 60606

Cahners Books International, Inc.
221 Columbus Avenue
Boston, Massachusetts 02116

Small Business Administration, 575 North
Pennsylvania Street, Indianapolis Indiana
46204, has the following management assistance series covering a wide variety of topics:

Management Aids (Free)
Small Marketers Aids (Free)
Small Business Bibliographies (Free)
Small Business Management Series Booklets
Starting and Managing Series
Small Business Research Series

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Work Sheet for Kitchen Equipment Inspection and Preventive Maintenance Services*

BUILDING			Quarterly inspection will be made the 1st week in Jan., Apr., July, and Oct. If kitchen has two or more pieces of equipment, use a separate worksheet for each one.							
			Legend for marking							
			v = satisfactory x = adjustment required xx = repair or replace (x) or (xx) = defect corrected							
Date	Qtrly.	Mo.	Wkly.	Range	serial no. _____	Qtrly.	Mo.	Wkly.	Vegetable Steamer	serial no. _____
<input type="checkbox"/>			<input type="checkbox"/>	1 Doors		<input type="checkbox"/>		<input type="checkbox"/>	57 Pressure reducing valve	
			<input type="checkbox"/>	2 Nuts & bolts			<input type="checkbox"/>	<input type="checkbox"/>	58 Pressure gauge	
			<input type="checkbox"/>	3 Level cooking surface				<input type="checkbox"/>	59 Doors	
		<input type="checkbox"/>	<input type="checkbox"/>	4 Cooking surface				<input type="checkbox"/>	60 Gaskets	
			<input type="checkbox"/>	5 Heating unit		<input type="checkbox"/>		<input type="checkbox"/>	61 Drip traps	
			<input type="checkbox"/>	6 Oven			<input type="checkbox"/>	<input type="checkbox"/>	62 Steam exhaust valves	
<input type="checkbox"/>			<input type="checkbox"/>	7 Baffle or deck plate			<input type="checkbox"/>	<input type="checkbox"/>	63 Strainers	
			<input type="checkbox"/>	8 Oven heating units				<input type="checkbox"/>	64 Safety valve	
			<input type="checkbox"/>	9 Operator				<input type="checkbox"/>	65 Compartment drain	
			<input type="checkbox"/>	10 Heating elements		<input type="checkbox"/>		<input type="checkbox"/>	66 Steam piping	
<input type="checkbox"/>			<input type="checkbox"/>	11 Switches & control					Steam Jacketed Kettle serial no. _____	
<input type="checkbox"/>			<input type="checkbox"/>	12 Thermostat			<input type="checkbox"/>	<input type="checkbox"/>	67 Safety valve	
			<input type="checkbox"/>	13 Pilot lamp			<input type="checkbox"/>	<input type="checkbox"/>	68 Steam water valve	
			<input type="checkbox"/>	14 Therm. block or lug connect & panel		<input type="checkbox"/>		<input type="checkbox"/>	69 Drip trap	
<input type="checkbox"/>			<input type="checkbox"/>	15 Fuses		<input type="checkbox"/>		<input type="checkbox"/>	70 Strainer	
			<input type="checkbox"/>	Griddle serial no. _____				<input type="checkbox"/>	71 Hinged cover	
			<input type="checkbox"/>	16 Nuts & bolts				<input type="checkbox"/>	72 Draw-off valve	
			<input type="checkbox"/>	17 Level cooking surface		<input type="checkbox"/>		<input type="checkbox"/>	73 Steam piping	
			<input type="checkbox"/>	18 Cooking surface		<input type="checkbox"/>		<input type="checkbox"/>	74 Draft diverter	
<input type="checkbox"/>			<input type="checkbox"/>	19 Heating unit pressure plates			<input type="checkbox"/>	<input type="checkbox"/>	75 Pressure gauge	
			<input type="checkbox"/>	20 Heating units			<input type="checkbox"/>	<input type="checkbox"/>	76 Water gauge glass	
<input type="checkbox"/>			<input type="checkbox"/>	21 Switches & control				<input type="checkbox"/>	77 Water gauge cocks	
<input type="checkbox"/>			<input type="checkbox"/>	22 Thermostat				<input type="checkbox"/>	78 Water jacket	
			<input type="checkbox"/>	23 Pilot lamp				<input type="checkbox"/>	79 Gas burner	
<input type="checkbox"/>			<input type="checkbox"/>	24 Therm. block or lug connect & panel					Potato Peeler serial no. _____	
<input type="checkbox"/>			<input type="checkbox"/>	25 Fuses			<input type="checkbox"/>	<input type="checkbox"/>	80 Gear box lubrication	
			<input type="checkbox"/>	Oven serial no. _____				<input type="checkbox"/>	81 Lubrication	
			<input type="checkbox"/>	26 Doors				<input type="checkbox"/>	82 Grease cups	
			<input type="checkbox"/>	27 Nuts & bolts				<input type="checkbox"/>	83 Nuts & bolts	
			<input type="checkbox"/>	28 Level cooking surface				<input type="checkbox"/>	84 Vibration	
<input type="checkbox"/>			<input type="checkbox"/>	29 Racks		<input type="checkbox"/>		<input type="checkbox"/>	85 Leveling of equipment	
			<input type="checkbox"/>	30 Baffle or deck plate				<input type="checkbox"/>	86 Parts	
			<input type="checkbox"/>	31 Heating unit connection				<input type="checkbox"/>	87 Motor & elect. connections	
			<input type="checkbox"/>	32 Operator				<input type="checkbox"/>	88 Packing gland	
			<input type="checkbox"/>	33 Heating units				<input type="checkbox"/>	89 Door gasket	
<input type="checkbox"/>			<input type="checkbox"/>	34 Switches & controls			<input type="checkbox"/>	<input type="checkbox"/>	90 Abrasive cylinder disc	
<input type="checkbox"/>			<input type="checkbox"/>	35 Thermostat				<input type="checkbox"/>	91 Water connection	
			<input type="checkbox"/>	36 Pilot lamp					Mixer serial no. _____	
<input type="checkbox"/>			<input type="checkbox"/>	37 Therm. block or lug connect. & panel			<input type="checkbox"/>	<input type="checkbox"/>	92 Lubrication	
<input type="checkbox"/>			<input type="checkbox"/>	38 Fuses			<input type="checkbox"/>	<input type="checkbox"/>	93 Grease cups	
			<input type="checkbox"/>	Deep Fat Fryer serial no. _____				<input type="checkbox"/>	94 Nuts & bolts	
			<input type="checkbox"/>	39 Baskets				<input type="checkbox"/>	95 Vibration	
			<input type="checkbox"/>	40 Drain valve		<input type="checkbox"/>		<input type="checkbox"/>	96 Leveling of equipment	
<input type="checkbox"/>			<input type="checkbox"/>	41 Leveling of equipment				<input type="checkbox"/>	97 Parts	
			<input type="checkbox"/>	42 Gas burners				<input type="checkbox"/>	98 Motor & elect. connections	
			<input type="checkbox"/>	43 Electrical heating				<input type="checkbox"/>	99 Clutch	
<input type="checkbox"/>			<input type="checkbox"/>	44 Switches & controls					Meat/Vegetable Cutting, Chopping, Grinding Machine serial no. _____	
<input type="checkbox"/>			<input type="checkbox"/>	45 Thermostat				<input type="checkbox"/>	100 Lubrication	
			<input type="checkbox"/>	46 Pilot lamp				<input type="checkbox"/>	101 Nuts & bolts	
<input type="checkbox"/>			<input type="checkbox"/>	47 Therm. block or lug connect & panel				<input type="checkbox"/>	102 Vibration	
<input type="checkbox"/>			<input type="checkbox"/>	48 Fuses				<input type="checkbox"/>	103 Parts	
			<input type="checkbox"/>	Meat Slicer serial no. _____				<input type="checkbox"/>	104 Motor & elect. connections	
			<input type="checkbox"/>	49 Lubrication				<input type="checkbox"/>	105 Blade & knife	
			<input type="checkbox"/>	50 Nuts & bolts						
			<input type="checkbox"/>	51 Vibration						
			<input type="checkbox"/>	52 Parts						
			<input type="checkbox"/>	53 Safety guards						
			<input type="checkbox"/>	54 Motor & elect. connections						
<input type="checkbox"/>			<input type="checkbox"/>	55 Slice thickness adjuster						
<input type="checkbox"/>			<input type="checkbox"/>	56 Blades						

Inspected by _____

Repaired by _____

* Based on John Stokes, **Food Service**, 2d ed. Dubuque, Iowa: Wm. C. Brown Co., 1973.