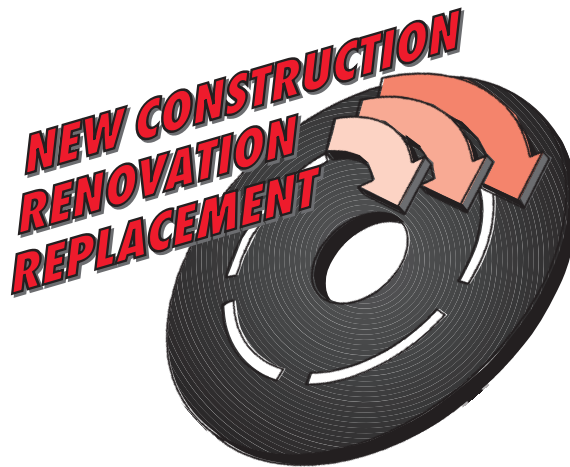


OVERVIEW

Writing specifications is the process of putting all of your program expectations of the equipment on paper. The process is challenging and time consuming but essential for the new equipment to meet your needs. This chapter will guide you through the development of writing specifications that will become the body of the bid document. Writing clear and complete specifications is the only way to assure the acquisition of what you want and need.



About Specifications

Various types of specifications will be described and a check list will be offered. This chapter is designed to help you gather and organize information from which the bid specification may be structured.

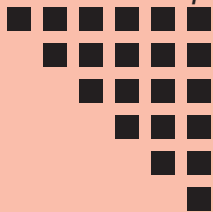
Writing specifications may be the most challenging and important step in the purchasing process. Consider that a specification is a “city map” for purchasing. Without an accurate map the equipment purchasing efforts may fail. The primary objective of good specification writing is to assure the acquisition of what you want and need.

There are two ideas to remember when developing specifications:

- The bidders cannot read your mind.
- The bidders are not going to provide any more than is asked for in the written bid specification.

The New Design Handbook for School Food Service (1997), provided by the NFSMI, includes an excellent resource chapter titled “Specifications.” “The Pitfalls of Writing Specifications” chapter describes what may happen when the proper steps are not taken from the beginning of the process and will help you avoid the pitfalls.

Traveler's Tip



If you are ordering a “system,” it does not necessarily mean you will be receiving all necessary components. Do your homework!

Types of Specifications

According to the National Institute of Governmental Purchasing, Inc. (1977), "a specification is a concise statement of a set of requirements to be satisfied by a product, material, or process" (p. 2-5). There are several types of specifications which will be needed at one time or another. Specifications take many forms, each having specific respective benefits. Listed below are the various types which will be described later in the chapter.

1. Qualified Product List (QPL)
2. Design Specifications (combination of Performance/Design Specifications)
3. Performance Specifications
4. Item Specifications

Regardless of the type of specification being developed, you will want to remember the guiding principles and follow criteria that include:

- identifying minimum requirements
- allowing for a competitive bid
- providing for an equitable award at the lowest possible cost

To assure that specifications meet these criteria, the following may be used as a check (✓) list. A specification should be:

- ___ simple but exact
- ___ identified with terms used in the marketplace
- ___ reasonable in its tolerances (unnecessary precision is expensive and restrictive)
- ___ capable of being met by several bidders for the sake of competition
- ___ clear and understandable

Developing specifications is an important responsibility for you and your program. Make no mistake, it is the hardest function in the purchasing process. It is wise to build a team of resource people to help provide and collect information in the development of specifications. Such a team might consist of:

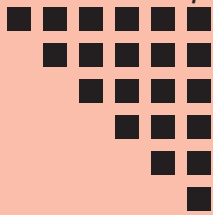
- foodservice consultant
- school foodservice staff



- manufacturer's representatives
- equipment dealers
- service agencies
- other professional colleagues
- yourself

It is the CNP director's responsibility to analyze and develop the information to create your unique and final specifications. The Federal regulations clearly state that the CNP director must develop the actual specifications used in the invitation for bid (IFB).

Traveler's Tip



Don't rule out good resources to support the team such as a neighboring school district, utility specialist, trade journals, and your State Office of Child Nutrition. Don't delegate this responsibility. The ultimate person responsible for specifications is the CNP director.

Developing specifications is a challenge that can be frustrating. It is easy to use a short-cut style or form of specification. The following descriptions of specifications should help in your decision about time investment in specification writing.

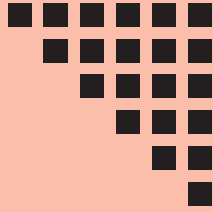
1. Qualified Products List (QPL)

A qualified products list identifies various brands that have met specific criteria. Bidding is limited to those manufacturers whose products are on the list. The purpose of this type of specification is to determine, in advance, those products that meet the established criteria. The evaluation of these bids is greatly simplified. Awards may only be made for products on the QPL. A bidder who submits a bid for a product not on the QPL is not responsive, i.e., does not follow bidding requirements. Thanks to the QPL, any questions from manufacturers whose products are evaluated as unacceptable can be handled before the bids are issued. Developing a QPL is time consuming, but the benefits at the time of bidding are worth the effort.

When using a QPL, the specifications should state that the products on the QPL have been tested and have met the stated specifications. In addition, when you intend to adopt a QPL, you should notify the manufacturers that will be affected. Your program notice should describe all requirements necessary for their items of equipment to qualify for the list. The QPL should be updated frequently.



Traveler's Tip



To promote competition and take advantage of innovation in the marketplace, continue testing other pieces of equipment even after the QPL is developed. Manufacturers may change the quality and performance of their equipment, so be flexible and encourage testing of new products.

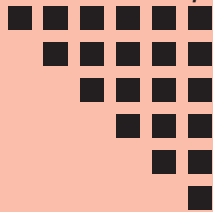
2. Design Specifications

Design specifications detail the characteristics that an item must possess to meet your specific requirements. Some specifications are so detailed that they also may describe how the product is to be manufactured. Design specifications are not as applicable for purchasing items designed by a manufacturer. The tendency to specify equipment with exact characteristics can be too restrictive and cost prohibitive. This is the case when dealing with patented products. For items that are neither patented nor custom made, a modified design specification can meet the criteria of a good specification by describing only essential features. This allows bidders more flexibility when establishing their bid prices.

3. Performance Specifications

Performance specifications describe the performance requirements that a product has to meet. The end result becomes the priority consideration. The manufacturer is given latitude in how the requirement is to be accomplished. Performance specifications encourage innovation and ingenuity. Tests or criteria are developed to measure an item's ability to perform as required. Performance specifications provide a good approach to writing specifications.

Traveler's Tip



An example of a performance specification could be that the oven must bake a certain volume of rolls, evenly brown on all racks, in a specified number of minutes.

Specifications can include both design and performance features used as prerequisites in developing a qualified products list. One reason why



writing foodservice equipment specifications is so challenging is that there are so many different types of equipment. Remember, each piece of equipment has certain necessary requirements to consider. There are, however, common elements that must be included in your equipment specifications. The type of specification used is an individual choice. You decide how to proceed.

If using a brand name specification, include the statement “or alternate/equal/equivalent that meets or exceeds the specifications in quality, size, capacity, and performance.” If using a QPL, include the statement “limited to products on the Qualified Products List”.

Example of QPL List:

Equipment Corp., model No. EFG-2
ABC Company, model XYG-2
Reliable Inc., model QRS-2A

Description

The type of specifications used will determine how to detail this section.

Example:

Qualified Products List - a general description.
Design specifications - a detailed description focusing on “design” and essential features.
Performance specifications - a detailed description stating performance requirements.
Item specifications - description stating specific information that clearly identifies the level of quality and performance.

This section also describes accessories and options to be included. Don't forget to include specific available selections that may be offered, such as door hinged right or left.

Example:

Stainless steel leg stand
Stainless steel left and right side panels
Oven control package “O”

Be sure to include that the piece of equipment meets the applicable standards of recognized national testing labs:

- AGA American Gas Association
- ASME American Society of Mechanical Engineers
- CGA Canadian Gas Association
- CSA Canadian Standards Association
- NSF National Sanitation Foundation
- UL Underwriters Laboratories

4. Item Specifications

Brand name specifications cite a brand name, a model number, and other descriptions that identify a specific product of a manufacturer. Brand names should be used as an example of the desired quality level but not used to restrict the bid only to those brands. It is understood that items equaling or surpassing the quality level are also acceptable.

It is better to use more than one brand name if possible. When using brand name specifications, a statement should be included such as “prior approved equal” to indicate that items equivalent in quality to the specified brand names will be accepted by your program.

It is essential to include specific information that clearly identifies the level of quality and performance expected. It is appropriate to name the salient characteristics to be used in determining bid responsiveness.

Brand name specifications do not constitute adequate specifications because:

- objectivity may be lessened in the process awarding the bid
- equality of opportunity among bidders may be reduced
- competition may be eliminated

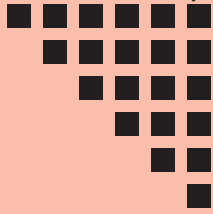
Utility Requirements - Electrical Requirements

List any electrical requirements for the item selected. This information appears on the manufacturer’s literature. List voltage, cycles, and phase as well as the electrical load which will be in amperes (amps), watts, kilowatts, or horsepower. Be sure when selecting electrical requirements that the school where the equipment is to be installed has the same voltage, phase, and amps available.

Example: 208 Volts, 60 Cycles, 3 Phase @ 20 Amps - also shown as 208/60/3.
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Traveler's Tip



The National Electric Code (NEC) 220-35 or 220-36 allows a facility to install up to a 20% smaller electric panel than in a comparable gas or conventional method used in the past for all electric kitchens. Another part of the code will allow you to add equipment to your existing panel without having to spend resources to enlarge the panel. Check it out with The Electric Foodservice Council, Appendix, p. A.9.

Plumbing Requirements

List any plumbing requirements for the item selected. This information also appears on the manufacturer's literature. List all hot water, cold water, drain, or gas requirements. Don't forget water and gas connection sizes as well as the gas rating of BTU/HR.

Example: $\frac{3}{4}$ inch gas connections @ 60,000 BTU/HR

Steam Requirements

List steam requirements. This information appears on the manufacturer's literature. Be sure that building steam is potable (drinkable) if contacting food. Be sure there is an ample supply of steam to meet operational requirements. Steam pressure is shown in pounds per square inch (psi). Special pressure reducing valves (PRV) and water condensate valves are required and should be specified. Consult with experts before attempting to write specifications for direct connected steam equipment.

Mechanical Requirements

According to *The New Design Handbook for School Food Service* (1997), mechanical requirements of equipment are those requiring duct work connections for the purpose of venting. This would be equipment items like dishwasher condensate hoods, cooking equipment exhaust hoods, or clothes dryers for towels or linen. The duct connection size will appear on the specification along with the suggested air to be exhausted or supplied to the equipment. The exhaust or supply will be noted as cubic feet per minute (CFM) and static pressure (SP). Static pressure is the amount of air resistance the

Specification Development



equipment has and will be noted in inches, i.e., 10" x 30" duct connection for 3,200 CFM@ ¾" S.P. Like steam, it is advisable to consult with experts before attempting to write specifications for equipment with mechanical requirements. Duct work and fans will usually be required for the proper operation of the equipment which will require other contractors to be involved.

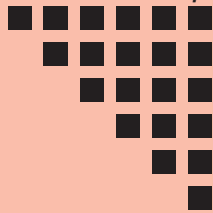
Special Instructions

List any special instructions to the bidder and be specific! This section is important because if you don't list it, you won't get it. Such special instructions shall include:

- installation instructions
- removal of old equipment
- demonstration requirements
- permit(s) acquisition

Example: Deliver, uncrate, remove crate, set in place ready for the final connections by others.

Traveler's Tip



Use of the words *shall*, *will*, *should*, and *may*:

You will want to use these words correctly when writing specifications.

shall - use to express a binding requirement-mandatory

will - use to express a declaration of purpose on the part of the purchaser or when futurity is required

should or *may* - use to express non-mandatory provisions

Freight and Delivery Specifications

It is common practice in the foodservice industry for the manufacturer to coordinate the shipping arrangements. Be familiar and knowledgeable of the responsibilities of various shipping terms. Common methods of shipping used in the school foodservice segment are:

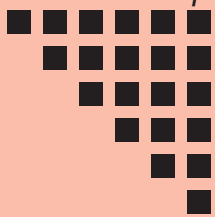
- Freight on Board (FOB) Destination, Freight Prepaid — The seller pays the freight charges, owns the goods in transit and files any claims for damage or shortage.



- FOB Destination, Freight Collect - The buyer pays the freight charges, but the seller owns the goods in transit.
- FOB Destination, Freight Collect and Allowed - The buyer pays the freight charges but deducts charges from seller's invoice for goods. Seller owns the goods in transit.

To avoid unnecessary headaches, it is recommended that equipment be shipped to the dealer location. In that way, you place responsibility on the dealer to receive the equipment, check it, then deliver to the school site. If delivery is made directly to the school, make sure the facilities are adequate to receive the equipment from the truck and there is adequate personnel to unload the equipment. If a loading dock is not available, specify that delivery be made on a truck with a lift gate. Chapter 9 addresses the receiving process in detail. Often, with new construction or an extensive renovation project, the general contractor receives the equipment.

Traveler's Tip



You will have several delivery choices. Decide in advance where the equipment will be delivered. Include these instructions in your specifications.

Installation Requirements

The installation requirements that should be included in the equipment specifications may be different for each piece of equipment in the bid. It is important to make sure the details of this part of the process are included in the bid. Be aware that installation can be a source for disagreement between two parties. To avoid any misunderstanding, delineate the responsibilities for the various aspects of the installation process.

No matter who is responsible for installing the equipment, it is a good practice to request installation manual(s) from manufacturers before writing the specifications. The detailed information in the manual verifies the requirements, confirms the fit, promotes fair bidding, and enables you to make a preliminary review.



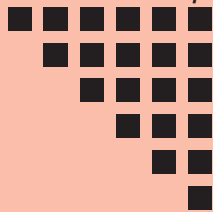
Installation requirements for new construction and renovation projects are fairly standard and usually are coordinated by the general contractor. Consider that replacing or adding new equipment may present obstacles that need to be detailed.

The following list of questions will be helpful in identifying the bidder requirements:



- *Who will install the equipment?*
- *Who will pay for the installation? Are charges included in the price or will there be additional charges?*
- *Who will receive, uncrate, and set in place?*
- *Who will remove crates and other debris?*
- *Who will make final utility connections?*
- *Who will remove the existing equipment?*
- *Who will relocate old equipment to new location?*
- *Who will disconnect the utilities from the existing equipment (water, electric, gas, steam, drains, and ventilation)? If you specify the utility work to be done by others, the responsibility to coordinate this with the arrival of the new equipment will be left to you or your designee.*
- *Who will apply for permits (if required)?*
- *Who will install, replace, or adjust fire protection for the equipment?*

Traveler's Tip



Specification writing and installation go hand in hand. Verify you have access to the location intended for the new piece of equipment...what about long corridors, a 90° turn, or a narrow doorway?

It is recommended that the following be included in the specification even though it should be understood. However, it is usually a good practice to delineate all of your expectations.

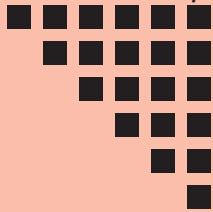
The specific equipment must be installed in accordance with:

- State and local codes
- National Fuel Gas Code, ANSI-Z223.1 (latest edition) available from the American Gas Association, Inc., 1515 Wilson Blvd., Arlington, VA 22209



- National Electric Code ANSI/NFPA-70 (latest edition)
- ANSI NFPA Standard # 96 "Vapor Removal from Cooking Equipment," (latest edition), from the National Fire Protection Association, Battery March Park, Quincy, MA 02269

Traveler's Tip



Chapter 9 and Appendix, p. A.73, offer an installation requirements checklist that may help when developing this section of the specifications.

Warranties

Warranties vary from manufacturer to manufacturer. Therefore it is beneficial to know what is included and not included in the warranty. You will find a sample of a warranty in Appendix, p. A.5-6. Some standard conditions and limitations covered in a warranty follow:

- period of time new products are warranted from date of original installation
- the liability of the manufacturer
- normal labor charges incurred in repair or replacement within a certain mileage limitation, 50 miles or 100 miles round trip is usual
- full parts or limited parts
- parts and labor
- listing of parts whose warranty period varies from the standard as stated in the original condition
- a no-obligation statement to warrant the equipment and the specifics such as, misapplied, mishandled, abused, modified, etc.

In the bid specifications, include the warranty requirements. Any modification to the standard original warranty, such as extended warranty coverage, should be stated.

A warranty should be analyzed just like a feature of the piece of equipment. Some manufacturers offer varying conditions that may become a deciding factor in purchasing the equipment. Some questions to ask in evaluating a warranty are:

- What is the duration of the warranty in months?



- Does the warranty provide service and repair at the installation site?
- Does the warranty cover labor, travel time, mileage, or zone charge for the life of the warranty?
- Are the parts warranted for the duration of the original warranty?

The manufacturer's representative and the authorized service agency would be good resources to use in evaluating warranty contracts. A sample warranty is found in Appendix, p. A.5-6.

Extended Warranties

Extended warranty coverage is as the term implies. A manufacturer extends the warranty period of its original equipment warranty for a period of a given number of months (i.e., 12 months) beyond the original equipment warranty.

An extended warranty could be advantageous if the additional price is in line with the price of a potential normal service call. Buying extended warranties is like buying insurance. It may not be worth it, but then again it could save you expensive repairs.

Some questions to consider in deciding on the value of an extended warranty are:

- Is the equipment a high maintenance item?
- Are the controls and electronics of the equipment sophisticated?
- Would specially trained technicians be required to service the equipment?
- What is the price of an authorized service agency call?
- How many miles is the installation site from the authorized service agency?

The answers to these questions should determine the value of the extended coverage.

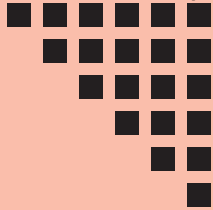
Annual prices of extended warranties vary from one type of equipment to another. For example, according to several manufacturers:

- two burner range = \$60.00
- typical 35 pound deep fat fryer = \$140.00
- combination oven-steamer = \$700.00



Again, forming a team of resource persons may help in this decision. School district technicians and factory authorized independent service technicians along with neighboring users could provide guidance in making the decision.

Traveler's Tip



All equipment must be purchased and installed according to local and state codes.

Reality Check Point

Hill County School district is enlarging the kitchen at Lockwood Elementary. Plans are to include a walk-in refrigerator/freezer. The CNP director is thrilled that the school is getting a walk-in refrigerator/freezer. The director writes a specification for a model that requires a recessed floor. The director reviews all the drainage, talks with the general contractor, and believes everyone understands the floor requirements for the walk-in refrigerator/freezer.

The director visits the site after the slab is poured and discovers the cement slab is not recessed and will not meet the needs for a recessed walk-in. It will cost thousands of dollars to remove the slab, so the director collects the information required to rewrite the walk-in refrigerator/freezer specification. In this case, the equipment bid had not been released. If the CNP director had not paid attention to details, no one would have noticed the error until the walk-in was installed.



References for Chapter 7

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