

LIST OF BID ITEMS

Refrigerators

<u>ITEM</u>	<u>SIZE (IN CUBIC FOOT)</u>	<u>TYPE</u>
1	10.0 - 11.9'	Small Frost Free
2	12.0 - 13.9'	Medium Frost Free
3	14.0 - 15.9'	Medium/Large Frost Free
4	16.0 - 17.9'	Large Frost Free
5	18.0 minimum	Extra Large Frost Free
6	16.0 minimum	Special Handicapped - bottom mount
7	16.0 minimum	Special Handicapped - side-by-side
8	Optional - Bidder listing of accessories available for Items 1 - 12.	

Energy Star Items Bid List: Items bid under the Energy Star listing must meet the **Federal Standards** for energy conservation. The bidder must attach the certification of Energy Star Compliance and printed information related to the energy consumption for each Energy Star model bid in addition to meeting all other relevant specifications and bid submission requirements specified in the bid package.

Energy Star Items

Item	Size (cubic ft.)	Type
9	12.0 – 13.9	Medium frost free - Energy Star rated
10	14.0 – 15.9	Medium/large frost free - Energy Star rated
11	16.0 – 17.9	Large frost free – Energy Star rated
12	18.0 minimum	Extra Large frost free – Energy Star rated
13	16.0 minimum	Handicapped - bottom mount - Energy Star rated
14	16.0 minimum	Handicapped - Side by side -Energy Star rated

**NOTE: ONLY BIDS FOR FROST FREE
NO MANUAL DEFROST**

SPECIFICATIONS FOR REFRIGERATORS ELECTRIC HOUSEHOLD

1.0 REFRIGERATOR AND RELATED EQUIPMENT - GENERAL SCOPE

1.1 Refrigerators shall be household type, self-contained with electric-motor-driven condensing units. Total storage volumes, shelf areas and dimensions shall be in accordance with this description. All refrigerators shall be furnished with shelves in door and vegetable drawers or crisper trays.

1.2 Types, sizes and grades. Household refrigerators covered by this specification shall be of the following types and sizes.

(1) The type and configuration of the models are:

SD - Single Door

TF - Top Freezer

BF - Bottom Freezer

SS - Side-by-Side

(2) The type of defrost system of the models are:

A - Automatic Defrost - A defrost system in which the defrosting action for all refrigerated surfaces is initiated and terminated automatically. Previously known as Type V.

2.0 GENERAL REQUIREMENTS

2.1 Refrigerators shall be not less than 10.0 cubic feet in size, and of the general type and description as listed in the bid/summary price sheet.

2.2 Exterior doors shall swing open to the right or left as specified by the ordering activity.

2.3 Interior liners of food storage compartments shall be porcelain enamel on steel or plastic.

2.4 **All refrigerators must be equipped with automatic defrost. NEW**

2.5 The construction of the freezer or evaporator door and its hinges shall be such that the door may be operated without breaking, cracking or distorting when the freezer or evaporator is free from or has a maximum of one-quarter inch (1/4") of frost on the outer surface of the evaporator adjacent to the door.

2.6 All electrical components and parts, i.e., controls, lamp socket, relay, switches, thermostat, wiring harness, cables and leads and their accessories should be located and mounted in a manner that their replacement may be readily accomplished. No electrical assembly or harness should be so constructed that it will be necessary to replace the complete assembly or harness when any component part of the assembly becomes defective or inoperative. Individual

components and parts of all assemblies and harness should be obtainable for relatively simple replacement purposes.

- 2.7 The temperature control shall be equipped with an off position and contact points or setting positions for a wide range of degrees of temperature, all of which may be selected by a readily accessible knob, properly marked with settings available, mounted on the temperature control shaft.
- 2.8 The relay shall be of quality and rating which under normal operating conditions should function properly for at least a one-year period and which is consistent with the requirements specified herein and its companion components and parts in the electrical circuit.
- 2.9 The motor shall be for operation on 115 volt, plus or minus 10 percent, 60HZ, single phase alternating current and shall be capable of starting in ambient temperature of 110 degrees Fahrenheit on voltages between 90 percent and 110 percent of rated voltage. Thermal overload protection of the automatic re-set type shall prevent excess temperature rise of the motor windings. A three-wire cord with a three-prong attachment plug shall provide grounding of the refrigerators and shall extend at least five feet but not more than nine feet beyond the point at which it is attached to the back of the cabinet.
- 2.10 The motor shall be of the type, speed, load and horsepower ratings consistent with the other requirements herein specified.
- 2.11 All hardware components and parts shall be of sturdy construction and made of material that is durable and structurally correct for the application.
- 2.12 All hardware attachment devices, i.e., screws, bolts and nuts shall be of material and finish consistent with the material of the components and parts which they are used.
- 2.13 All hardware shall have a finish, which shall remain intact after being subjected to the salt spray test for a period of 25 hours in accordance with ASTM B117. Vinyl covered steel for center section of door handle is acceptable.
- 2.14 The vendor may exercise the option of finishing the food compartment door hinges the same finish as specified for the outer panel of the food compartment door.
- 2.15 All hardware shall be securely attached in a substantial manner and to the extent that removal may not be accomplished without the use of tools.
- 2.16 The refrigerator unit, consisting of the compressor, motor and housing shall be of the hermetically sealed type with reciprocating or rotary-type compressor. The compressor shall be equipped with a means of unloading, such as automatic unloader or capillary tube. The sealed refrigerating system shall be serviceable by complete unit replacement or the replacement of component parts such as motor compressor assembly, evaporator, condenser and heat exchanger.
- 2.17 The hermetic compressor unit shall be quiet in operation, free from excessive vibration and entirely automatic in operation.

- 2.18 Each refrigerator shall be furnished with a minimum of two standard-sized ice cube trays.
- 2.19 Defrosting or chiller tray shall be made of material suitable for intended service and of adequate size to receive drip from cooling unit during defrosting.
- 2.20 Each refrigerator shall include one or more vegetable drawers or crisper trays occupying the full width of the food compartment and shall be readily removable and constructed of steel finished with porcelain enamel, anodized aluminum or durable plastic, durable glass or non-corrosive metal.
- 2.21 The refrigerator shall be capable of producing average cabinet air temperature in the general food storage compartment of 36 degrees Fahrenheit in an ambient of 70 degrees Fahrenheit, 38 degrees Fahrenheit in an ambient of 110 degrees Fahrenheit. The performance test procedures shall be as specified in ANSI/AHAM-1.
- 2.22 Each exterior door shall be equipped with a magnetic gasket and unless otherwise specified, door shall swing to the right. A right-hand swing shall be described as having hinges located on the right side of the door when facing the refrigerator.
- 2.23 The outer shells (including the door) shall be carbon-steel sheet finished in baking synthetic enamel.
- 2.24 The inner liners of the general storage low-temperature food, frozen food storage and exterior doors shall be carbon-steel sheet or molded plastic. The carbon-steel sheet inner liners shall have porcelain enamel or baked synthetic enamel finish.
- 2.25 The color of the plastic inner liners shall be white or pastel.
- 2.26 When plastic liners are used in conjunction with foamed-in-place polyurethane employing fluorinated hydrocarbons the liner materials must be isolated from the polyurethane foam or must be made of acrylonitrile butadiene styrene (ABS) or High Impact Polystyrene (HIPS).
- 2.27 Breaker strips, when required shall be ABS plastic, polypropylene or HIPS when the insulation is foamed-in-place polyurethane with fluorinated hydrocarbons.

3.0 TESTING REQUIREMENTS **ONLY IF PHA REQUIRES NOT REQUIRED TO BID**

- 3.1 Plastic compartment liners and plastic door liners when assembled to outer doors shall not show any cracks or crazing when tested under Environment Cracking Resistance Test specified in ANSI/AHAM HRF-1.
 - 3.2.1 Single-piece liners eliminate the need for breaker strips. If impact testing is desired, it should be done as specified in ANSI/AHAM HRF-1, paragraph 10.6.

- 4.0 WORKMANSHIP. Welding and brazing shall be complete, uniform and properly fused, having no holes, slags inclusions, scale or flux deposits and shall not be cracked, fractured or undercut. Soldering shall be complete, clean, adherent and without pinholes. Bolts, nuts, screws, studs and other type fasteners, when used shall not be broken,

fractured, stripped, or loose and shall have locked washers or shall have self-locking type when used on structural parts subject to vibration.

5.0 REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

6.0 PACKING AND MARKING. Packaging, packing and marking shall be in accordance with standard commercial practices and be specified in the contract or order.

7.0 SHIPPING. The vendor shall deliver the specified refrigerators F.O.B. destination agreed upon in the contract or purchase order.

8.0 REFERENCES.

ANSI/UL 250 is available from Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, Illinois 60062.

Copies of ANSI/AHAM HRF-1-1988 (Revision of ANSI 1338.1-1970) are available from Association of Home Appliance Manufacturers, 20 North Wacker Drive, Chicago, Illinois 60606.

9.0 GUARANTEE.

9.1 Contractor shall guarantee the entire refrigerator to be free from defects in materials and workmanship for a period of one year beginning on the day of acceptance of the refrigerator by the ordering PHA/IHA, except that plastic parts of the cabinet shall be guaranteed for a period of two years beginning on the day of acceptance of the refrigerator by the ordering PHA/IHA. In addition to the one-year warranty noted above, the sealed refrigerator cooling system shall be warranted for an additional four years. (Labor and material required to make corrections under the two year guarantee shall be at no expense to the ordering PHA/IHA.)

9.2 Contractor shall guarantee that if equipment becomes inoperative, as defined in the following paragraph, he will, within five working days after being notified of such conditions, repair or replace and install any part (except enamel, porcelain or lacquer) necessary to make it operative.

9.3 A refrigerator shall be considered inoperative within the meaning of the preceding paragraph when the interior cabinet temperature rises above 50 degrees Fahrenheit and is maintained at such temperature for six or more consecutive hours after the usual normal adjustments have been made or other mechanical and electrical trouble affecting normal operations has been corrected.

9.4 The contractor shall furnish new or reconditioned cooling system units or components, replacing the refrigerators furnished under this contract any units and/or parts which become defective (excluding damage due to visible abuse) during a four-year period, commencing at the expiration of the one-year guarantee period. The contractor shall provide the labor and materials required to make the replacements. Defective units and/or parts become the property of the contractor.

- 9.5 The contractor shall submit to the ordering PHA/IHA THE NAME AND ADDRESS OF THE LOCAL AGENT WHO WILL FURNISH SERVICE in connection with the guarantee and replacements as herein specified. This local servicing agent shall not attempt to charge the PHA/IHA for services covered by this warranty.