New Mexico Public School Facilities Authority
1312 Basehart Rd. SE, Suite 200
Albuquerque, NM 87106-4368

PRE-FUNCTIONAL CHECKLIST – VFD

PROJECT:

PROJECT NUMBER:

REPORT ID:

EQUIPMENT DESCRIPTION: Variable Frequency Drive

TAG NO: VFD-00

LOCATION:

EQUIPMENT SERVED:

This Pre-Functional Checklist is used during the Performance Assurance Process to insure the correct equipment is delivered, installed and properly started in preparation for Functional Testing of related building systems. This checklist does not take the place of the Manufacturer's recommended checkout and startup procedures.

This Checklist is divided into 6 Sections and is to be completed by the Contractor in 6 separate steps. When completing each Section, be sure to check and initial EACH line item as being completed. Each Section's items must ALL be checked complete and initialed before the form is submitted to the PAC Authority. Any item which does not apply can be marked as "N/A" in the initial section. **If this form is not used for documenting, one approved by NMPSFA of similar rigor shall be used.**

This filled-out checklist has been reviewed with the exceptions noted below.

COMMENTS:

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SECTION 1 – EQUIPMENT DELIVERY:

VFD Information					
Make				**Model Number**	
Serial Number				**Service Area**	
Volts/Phase				**Function**	
Motor HP		**Motor Amps**		**Drive Max Amps**	
Comments:					

Associated Checklists					
Cooling Tower	☐	**Air Handling Unit**	☐	**Exhaust Fan**	☐
Pump	☐	**BAS**	☐	**Other**	☐
Comments:					

Requested documentation submitted	Rec'd	Comments
Manufacturer's cut sheets	☐	
Performance data (pump curves, coil data, etc.)	☐	
Installation and startup manual and plan	☐	
O&M manuals	☐	
Factory test results	☐	
Sequences and control strategies	☐	
Warranty Certificate	☐	
Comments:		

The checklist items of SECTION 1 are all successfully completed…….___YES ___NO

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SECTION 2 – INSTALLATION CHECKS:

Installation Checks			
Check if Acceptable; Provide comment if unacceptable		**NA**	**Comment**
General			
Installation per manufacturer's requirements	☐	☐	
Permanent label affixed and UL stamp approved	☐	☐	
Drive location not subject to excessive moisture or dirt	☐	☐	
Drive location not subject to excessive temperatures	☐	☐	
Appropriate Volts vs. Hz curve is being used	☐	☐	
Drive size matches motor size	☐	☐	
Drive independently mounted	☐	☐	
Cooling air flow path clean and unobstructed	☐	☐	
VFD interlocked to control system	☐	☐	
Unit is programmed with full written programming record on site	☐	☐	
Accel time set to _____ and Decel time set to _____	☐	☐	
Coordinated with BAS for all interface ranges and signal isolation	☐	☐	
Restart on Power Failure parameter set to auto	☐	☐	
Drive min and max speed set to _____ Hz min and 60 Hz max	☐	☐	
Security settings set per owner direction and Password documented for owner	☐	☐	
Drive response to loss of signal set to _____	☐	☐	
Output pulse resolution set to _____ MHz. (This is coordinated with the application to minimize audible noise and coordinated with driven bearing allowances.)	☐	☐	
Input of motor FLA represents 100% to 105% of motor FLA rating	☐	☐	
Upper frequency limit set at 100%, unless explained otherwise	☐	☐	
Electrical and Controls			
Power disconnect is located within site of the unit it controls and labeled	☐	☐	
All electric connections tight	☐	☐	
Grounding installed for components and unit	☐	☐	
Safeties installed and operational	☐	☐	
Overload breakers installed and correct size	☐	☐	
All control devices and wiring complete	☐	☐	
Control system interlocks connected and functional	☐	☐	
Installation per manufacturer's instructions	☐	☐	
Rotates in the correct direction (for VFD, check Inverter and BYPASS modes)	☐	☐	
Checked the input voltage with drive disconnected	☐	☐	
Electrical Verified: Source Panel, Panel Location, Circuit # (List in Comments)	☐	☐	

The checklist items of SECTION 2 are all successfully completed…….___YES ___NO

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SECTION 3 – OPERATIONAL CHECKS:

Operational Checks			
Check if Acceptable; Provide comment if unacceptable		**NA**	**Comment**
Operation checked in HAND, OFF, and AUTO. As applicable operation also checked in BYPASS. Where applicable, ensure safeties are active in all modes	☐	☐	
Specified sequences of operation and operating schedules have been provided with all variations documented	☐	☐	
Specified point-to-point checks have been completed and documentation record submitted for this system	☐	☐	
Start-up complete	☐	☐	

The checklist items of SECTION 3 are all successfully completed……___YES ___NO

SECTION 4 – SENSOR and ACTUATOR CALIBRATION:

Sensor and Actuator Calibration

All field-installed sensors and gages, and all actuators (dampers and valves) on this piece of equipment shall be calibrated in accordance with Specification Section 01810. All test instruments shall have had a certified calibration within the last 12 months: **Y/N_____.** Sensors installed *in* the unit at the factory with calibration certification provided need not be field calibrated.

Sensor or Actuator Tag & Location	**Location OK**	***1st* Gage or BAS Value**	**Instrument Measured Value**	***Final* Gage or BAS Value**	**Pass Y / N**

Comments:

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The checklist items of SECTION 4 are all successfully completed……___YES ___NO

SECTION 5 – EQUIPMENT START-UP:

The Contractor shall complete Section 3 of this form during the Start-up procedures for the equipment. The purpose of this Section is to document that proper start-up and check-out procedures were completed and documented per the Manufacturer's Start-Up Proceedure. **Start-Up is to by the Factory Representative, or a designated, Factory Trained Technician.**

CHECKLIST ITEMS:

Initial	Complete	Description
_____	Yes / No	PAC has been notified of start-up
_____	Yes / No	Manufacturer's Startup report completed with this checklist attached

COMMENTS:

The checklist items of SECTION 5 are all successfully completed……___YES ___NO

SECTION 6 – NOTIFICATION FOR TESTING:

This piece of equipment is properly installed, has been properly started up and is operational and ready for performance testing.

ALL FIELDS MUST BE ENTERED. NO BLANKS. IF NOT INVOLVED, N/A.

RESPONSIBLE PARTY	VERIFIED BY (Name)	COMPANY	DATE
Mechanical Contractor			
Plumbing Contractor			
General Contractor			
Controls Contractor			

PRE-FUNCTIONAL CHECKLIST – VFD

Electrical Contractor			
PAC Consultant			
NMPSFA RFM			
Manufacturer Rep.			

End Of Checklist