



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

## Pre-Functional Checklist

### COOLING TOWER: CT-XXX

**PROJECT:**

**PROJECT NUMBER:**

**REPORT ID:**

**EQUIPMENT DESCRIPTION:** Cooling Tower

**TAG NO:** CT-XXX

**LOCATION:**

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 4 Sections and is to be completed by the Contractor in 4 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. 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:

The Contractor shall complete Section 1 of this form when the equipment is delivered to the site. The purpose is to record the actual design parameters listed below along with the checklist items as indicated. Should there be any discrepancy between the Actual and the Submitted information, or any item be checked incomplete, the Contractor shall immediately notify the PAC and RFM.

<b>Parameter</b>	<b>Designed</b>	<b>Submitted</b>	<b>Actual</b>
Make			
Model			
Serial	#		
<u>Fan #1</u>			
Air Flow	X,XXX CFM		
ESP	X.X in w.g.		
Motor HP	X.X HP		
Voltage	XXXV / XΦ /XXhz		
<u>Fan #2</u>			
Air Flow	X,XXX CFM		
ESP	X.X in w.g.		
Motor HP	X.X HP		
Voltage	XXXV / XΦ /XXhz		
<u>Pump #1</u>			
Make			
Model			
Serial			
Flow	X GPM		
Head	X ft		
Motor Size	XX HP		
Voltage	XXXV / XΦ / XXHz		
<u>Pump #2</u>			
Make			
Model			
Serial			
Flow	X GPM		
Head	X ft		
Motor Size	XX HP		
Voltage	XXXV / XΦ / XXHz		



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#### Media Membranes

Pre-Filters                      Merv XX  
 Final Filters                    Merv XX

*The checklist items of SECTION 1 are all successfully completed..... \_\_YES \_\_NO*

#### **SECTION 2 – EQUIPMENT INSTALLATION:**

The Contractor shall complete Section 2 of this form when the installation of the equipment is being performed. The purpose of this Section is to insure the equipment is installed to the Project Design and the Manufacturer’s recommendations. Immediately notify the PAC and RFM should any item be checked incomplete.

The Contractor shall have personnel with direct knowledge complete this checklist to verify that systems are installed, complete and operable, before the commencement of TAB work. ***This checklist does not replace any manufacturer recommended procedures.*** Contractor shall be responsible for ensuring that work by subcontractors is completed and checked off. Prior to commencement of TAB work, the Contractor shall submit a written request to the Owner, including completed construction checklists for mechanical inspection of the project to establish that the systems are ready for testing and balancing.

<b>Pre-start Checks</b> <b>Check box for completion</b>	✓	N/A	Comment
Components, mounting, & isolation installed			
Piping & valves installed, labeled and tested			
Balancing devices & test points installed as shown on drawings			
Make up water line installed & adjusted to correct pressure _____psig			
Water treatment system installed			
Condenser water system flushed, filled, and all air has been removed			
Spray nozzles, outlet screens, and basin clean			
Electrical connections completed			
Electrical Verified: Source Panel, Panel Location, Circuit (List in Comments)			
Disconnect switch installed properly			
Starter is installed with proper heaters			
Controls & safeties are installed; control systems interlocks are connected			
Temperature sensors properly located			
Fan/motor alignment performed; belts properly adjusted			
Equipment guards in place			
Fan and motor bearings lubricated and fan/motor turns freely			
Strainers are in place and clean			
Building controls/DDC system operational			



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Uninterrupted electrical power is available from a permanent source			
Ready to start and operate under control			

**COMMENTS:**

*The checklist items of SECTION 2 are all successfully completed.....*      YES      NO

**SECTION 3 – 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.

<b>Startup/Operational Checks Check box for completion</b>	<input checked="" type="checkbox"/>	<b>N/A</b>	<b>Comment</b>
Startup by Manufacturer's Representative			
Mechanical, Electrical, and Controls Contractors present			
Fan rotation is correct (bump)			
Operation of Electrical & Controls interlocks verified			
Fan status indicators verified			
Level control tested and adjusted			
Capacity controls verified			
HOA switch operates in all positions; safeties operate when in Hand			
Motor 1 Amps: Rated _____ Actual _____			
Motor 2 Voltage: Rated _____ Actual _____			
Discharge damper operate properly			
Sump heaters operate properly			
Vibration/noise level is acceptable			
Equipment has run continuously for a minimum of (4) hours			
Preliminary O&M Manuals provided to Owner			

*The checklist items of SECTION 3 are all successfully completed.....*      YES      NO



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**SECTION 4 – 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.**

<b>RESPONSIBLE PARTY</b>	<b>VERIFIED BY (Name)</b>	<b>COMPANY</b>	<b>DATE</b>
<b>Mechanical Contractor</b>			
<b>Plumbing Contractor</b>			
<b>General Contractor</b>			
<b>Controls Contractor</b>			
<b>Electrical Contractor</b>			
<b>PAC Consultant</b>			
<b>NMPSFA RFM</b>			
<b>Manufacturer Rep.</b>			