

## PREVENTIVE MAINTENANCE

COOLING TOWER

P.M. WEEK :

Machine Code :

LOCATION :

CENTRAL GOVT  
MINISTRY  
OF WATER RESOURCES

DATE :

Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts .	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
<b>MOTOR</b>						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw , compare with specification .	1.....Amp. 2.....Amp.	
					3.....Amp.	
	Q	H	Y	Check motor bearing .	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing . ( should be done during operation )	<input type="checkbox"/> Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment , linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm 2.....M.ohm.	
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp. 2.....Amp.	
					3.....Amp.	
		H	Y	- Measure motor speed	.....rpm.	
	Q	H	Y	- Measure blower wheel	.....rpm.	
	Q	H	Y	- Measure nozzle speed	.....rpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
<b>CONTROL PANEL</b>						
M				Check warning and operating light for proper operation , replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition .	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions ( Switch off the power first ) .	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device . adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Action By :

Date :

2/5/66

Check By :

Date :

Asst. Of DE / Director Of Engineering By :

Date :

## PREVENTIVE MAINTENANCE

## COOLING TOWER

P.M. WEEK :

Machine Code: 22  
CT-A3-02  
LOCATION: FLOOR 2ST A3DATE : 2/5/66Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts .	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
<b>MOTOR</b>						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw , compare with specification .	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing .	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing . ( should be done during operation )	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment , linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
	H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose	
	H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.	
				3.....M.ohm		
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
	H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.	
				3.....Amp.		
	H	Y	- Measure motor speed	.....rpm.		
	Q	H	Y	- Measure blower wheel	.....rpm.	
	Q	H	Y	- Measure nozzle speed	.....rpm.	
	H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose	
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
<b>CONTROL PANEL</b>						
M				Check warning and operating light for proper operation , replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition .	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions ( Switch off the power first ) .	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device . adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :


Action By : 

Date :

2/5/66.

Check By : \_\_\_\_\_

Date : \_\_\_\_\_

Asst. Of DE / Director Of Engineering By : 

Date : \_\_\_\_\_



## PREVENTIVE MAINTENANCE

COOLING TOWER

P.M. WEEK :

Machine Code:

LOCATION :

CENTRAL BOARD  
MINOR IRRIGATION  
AGRICULTURE

DATE :

Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts .	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
<b>MOTOR</b>						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw , compare with specification .	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing .	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing . ( should be done during operation )	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment , linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speed	rpm.	
	Q	H	Y	- Measure blower wheel	rpm.	
	Q	H	Y	- Measure nozzle speed	rpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
<b>CONTROL PANEL</b>						
M				Check warning and operating light for proper operation , replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition .	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions ( Switch off the power first ) .	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device . adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	Clean and repaint	

Comment :

Action By : \_\_\_\_\_

Date :

2/5/66.

Check By : \_\_\_\_\_

Date : \_\_\_\_\_

Asst. Of DE / Director Of Engineering By : \_\_\_\_\_

Date : \_\_\_\_\_

## PREVENTIVE MAINTENANCE

COOLING TOWER

P.M. WEEK :

Machine Code:

LOCATION :

CENTRAL AIR  
CONDITIONING &  
REFRIGERATION  
ENGINEERING INSTITUTE

DATE :

Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
<b>MOTOR</b>						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw, compare with specification.	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing. ( should be done during operation )	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment, linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speed	.....rpm.	
	Q	H	Y	- Measure blower wheel	.....rpm.	
	Q	H	Y	- Measure nozzle speed	.....rpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
<b>CONTROL PANEL</b>						
M				Check warning and operating light for proper operation, replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition.	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions ( Switch off the power first ).	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device, adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Action By :

Date :

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Date :



## PREVENTIVE MAINTENANCE

## COOLING TOWER

P.M. WEEK :

Machine Code:

LOCATION :



DATE :

Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
<b>MOTOR</b>						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw, compare with specification.	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing. ( should be done during operation )	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment, linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speed	.....rpm.	
	Q	H	Y	- Measure blower wheel	.....rpm.	
	Q	H	Y	- Measure nozzle speed	.....rpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
<b>CONTROL PANEL</b>						
M				Check warning and operating light for proper operation, replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition.	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions ( Switch off the power first ).	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device, adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Action By :

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Asst. Of DE / Director Of Engineering By :

Date :