



## Smart Facility management (SFM)

10 Anson Road, #22-02 International Plaza, Singapore 079903

URL: <http://www.smartdigitalbuild360.com/>

M & E INSPECTION FORM - Mechanical(Monthly)

ANNEX D7\_1

SITE: HDB Project1 15 Cedar Avenue, Singapore-349700

Month: February 2021

S/N	ITEM	DONE? (Y or N or NA)	Date Done	Remarks
1	SERVICING, INSPECTION AND TESTING OF AIR CONDITIONING MECHANICAL VENTILATION (ACMV) SYSTEM (SINGLE-SPLIT / MULTI-SPLIT / AHU / PACKAGE UNIT / DUCTED FCU / VRF / VRF)			
1	Clean evaporator coil and drip tray and flush drain pipe with approved solution	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Check Fresh Air Intake System and clean/replace filters (including HEPA)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	Inspect and clean air filter at the Fan Coil Units. Replace if necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	Check for refrigerant leaks in system, recharge gas if necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	Check and comb all dented fins of coils	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Check and clean electrical contacts and tighten all screws	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	Check routine operation of electrical components in control panel. Check and replace all blown fuses, indicating bulbs as specified if applicable	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
8	Check all anti vibration isolators for deterioration, replace if necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
9	Clean, wire brush, touch up and paint all rusty parts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
10	AHU: Check Blower for unusual sound, make good Blower by rectification on the cause of the unusual sound	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
11	AHU: Wash all washable filters and replace with new when found damaged/deteriorated beyond reuse	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
12	AHU: Check and Test Duct Smoke Detector and ensure its correct operation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
13	To take Refrigerant pressure reading for the Supply and Discharge pipes, top-up refrigerant gas when insufficient for the AC to operate effectively (to attach spreadsheet)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
14	AHU: Check condition of duct insulation and to re-tape loosen insulation with aluminium tape. To report damaged insulation work and any signs of condensation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
15	AHU: Clean up the plant room and clear choke in floor trap	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
16	Replace deteriorated/missing pipe insulations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
17	Check changeover of compressor, if any	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
18	Check piping joint connections for leak, if AC often require gas top-up	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
19	Check for abnormal running noise (Condensing Unit)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
20	Check compressor oil level, top up if necessary (applicable to open type compressor only)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	SERVICING, INSPECTION AND TESTING OF PUMPING SYSTEMS (INCLUDE BUT NOT LIMITED TO TRANSFER PUMPS/ DOMESTIC PUMPS/ HOSEREEL PUMPS/ FLUSH PUMPS/ PORTABLE PUMPS/ SUMP PUMPS/ EJECTOR PUMPS/ STORMWATER DETENTION PUMPS/ SUBMERSIBLE SEWAGE PUMPS/ SUBMERSIBLE DRAINAGE PUMPS ETC)			
1	To check Pressure Switch Cut-IN/OUT pressure chart is displayed, if found missing or damaged, replace with new display.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	To confirm pump Cut-IN/OUT is as accordance to design criteria (ref Cut-IN/OUT pressure chart).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	To listen for abnormal sound from pump bearings locations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	To listen and observe for abnormal sound from pump housing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	To observe the pump for excessive vibration	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Check drive shaft is free to turn by turning at the motor-pump shaft coupling	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	Check and confirm all valves are in their correct position respectively	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
8	Check electrical control panel and remote indicating panel for loose termination and proper operation of all electrical components	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
9	Check anti-vibration mountings and tighten holding down bolts, clamps etc	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
10	Re-calibrate Pressure Switch setting accordingly as stated in the CUT-IN/OUT label	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
11	Check for leakages	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
12	Touch-up paint to all metal corrosion/rusty portion	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
13	Test all Alarm status by simulation through the control panel for Tank Overflow and Power failure	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
14	SUMP PUMP: Clean and clear debris, sand and silt from pump sump pit if applicable	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
15	Check the system operation and control including the auto-change over operation of pump	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
16	TRANSFER PUMP: Check the functioning of the water level control system	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	

S/N	ITEM	DONE? (Y or N or NA)	Date Done	Remarks
17	Pressure Vessel - Check air pressure in tank, where applicable. Charge air pressure to tank if insufficient (according to manufacturer spec) To record reading	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
18	Level Switches - Check operation of water tank float valve and all level switches and rectify (if necessary).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	SERVICING, INSPECTION AND TESTING OF AUTOMATIC OR MOTORISED GATES/ ROLLER SHUTTER/ DOORS/ LOUVRES/ SMOKE CURTAIN SYSTEM AND FIRE SHUTTER SYSTEM			
1	Lubricate all gears, ripples and chains, when needed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Check close and open cycle for smooth operation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	Check and clean floor guides/floor track	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	Check the track wheels/rollers, gear/pulley/pivot and chains for wear and tear	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	Check micro-switches/magnetic/timber for proper operations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Check stopper bracket and pelmet ; tighten if necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	Check the rubber bumper and door alignment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
8	Check relays/actuation devices are working properly	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
9	Test for proper operation on the panic opening, lock and sensors, repair and replace when necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
10	Check counter balance of the barrier arm and adjust the spring tension when necessary	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	SERVICING, INSPECTION, CLEANING AND TESTING OF FRESH AIR INTAKE SYSTEM AND EXHAUST SYSTEM (INCLUDE BUT NOT LIMITED TO CANTEEN, TOILETS AND LABORATORIES)			
1	Inspect and clean Fresh Air Fan and filter (if any). Replace filter when it is no longer serviceable	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Inspect and clean grease filters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	Clean electrical contacts and tighten all contacts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	Check all anti vibration isolators and housing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	Clean, wire brush, touch up and paint all rusty parts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Check for damaged, wrong or missing labels and replace	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	Check and rectify or replace faulty components and connections in the control panel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
8	Test runs the whole system for proper operation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
9	Check Panel and PLC module are linked and in proper operation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
10	Kitchen Exhaust Fan: Check for Duct Joint Section for leakages	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	SERVICING, INSPECTION AND TESTING OF SYNTHETIC FIELD WATER SPRINKLER SYSTEM			
1	Turn on water supply. Pressurize system, check for leaks on the backflow and in the system. Check rain sensor. Program controller for proper seasonal conditions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Turn off water supply. Drain back supply line. Blow out all zones. Winterize backflow preventer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	SERVICING OF STORMWATER DETENTION TANK SYSTEM			
1	To desilt and clean the detention tank, trash screens	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	To servicing and testing the pumps, pump starters and the instrumentation and control systems and servicing the standby generator.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	SERVICING & INSPECTION OF CLEAN AGENT FIRE SUPPRESSION SYSTEM			
1	Check interface with fire alarm system.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Check interlock with ACMV dampers.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
8	SERVICING & INSPECTION OF AUTOMATIC FIRE SCANNING WATER MONITORING SYSTEM (FIRE MONITOR SYSTEM)			
	Water Monitor Device			
1	Conduct a dry test using a 500mm x 500mm size fire on Water Monitor Unit and confirm that the internal sensors are operating normally.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Check that the nozzle is directed accurately at the fire source.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	Visually inspect the condition of components	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
	Manual Override Control Panel			
4	Check that all controls are working normally in 'OVERRIDE' mode.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	Check all cable connections in the panel.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Check all indicating lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
9	SERVICING & INSPECTION OF AUTOMATIC IRRIGATION SYSTEM			
1	Inspect the controller and make sure it is plugged in and functioning.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
2	Update the date and time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
3	Check the connection on all the wires - make sure that the rain, wind, or soil moisture sensors are connected.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
4	Replace the backup battery.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
5	Turn on each zone and look for system damage.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
6	Turn on and run pumps and pressure vessels.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	
7	Clean filters.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	03/06/2021	

Checked By



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(Testing)  
THE CONTRACTOR  
Date: 04/06/2021  
Remarks:

Endorsed By



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(User)  
USER  
Date: 04/06/2021  
Remarks:

Verified By



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(saravanan)  
MANAGEMENT AGENT  
Date: 11/06/2021  
Remarks: