



HARYANA PUBLIC WORKS (B&R) DEPARTMENT
NIRMAN SADAN, SECTOR-33/A, CHANDIGARH

MOST URGENT
DATE BOUND

COVID-19

No. PWD/Elect. 57059

From

The Engineer-in-Chief (Buildings),
Haryana PW (B&R) Department,
Chandigarh.

To

1. All the Administrative Secretaries to Government Haryana.
2. All the Head of Departments of Haryana Government.
3. All the Managing Directors /Chief Administrators of Board and Corporations of Haryana Government.
4. All the Divisional Commissioners in Haryana.
5. All the Deputy Commissioners of the State of Haryana.

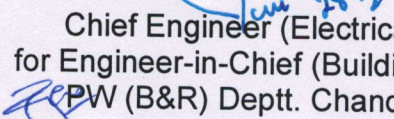
Dated: Chandigarh , the 28th April,2020

Subject: Advisory for operation of Air Conditioners and Ventilation to control spread of Covid-19 in Residences, Workspaces & Healthcare facilities.

Sir/Madam,

I have been directed to forward a copy of the advisory for operation of Air Conditioners and Ventilation in view of Covid-19 and request you for implementation of the same.

This issues with the concurrence of Health Department.

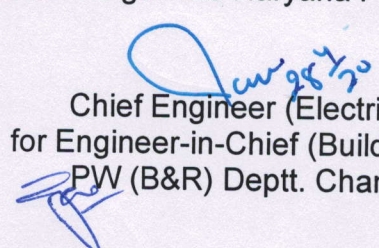

Chief Engineer (Electrical),
for Engineer-in-Chief (Buildings), Haryana
PW (B&R) Deptt. Chandigarh.

Endst. No. PWD/Elect. 57059

Dated: 28.04.2020

A copy of the above is forwarded to the following for information and necessary action.

1. PS /Dy. CM, PS/CS, PS/PSCM, PS/ACSPW.
2. All the Superintending Engineers/Executive Engineers Haryana PWD B&R Department.


Chief Engineer (Electrical),
for Engineer-in-Chief (Buildings), Haryana
PW (B&R) Deptt. Chandigarh.

Subject: Advisory for operation of Air Conditioners and Ventilation to control spread of Covid-19 in Residences, Workspaces & Healthcare facilities.

Covid-19 spreads due to droplets specially coming out after coughing and sneezing. This Disease is highly infectious when these droplets mix with dust particle and set on different material. If the environment of this area is cool and air conditioned, they remain for longer time. Proper ventilation and increase in temperature reduces the magnitude of virus in that particular area.

So, Air Conditioning should be used under strict restriction when absolutely needed. Normally open window gives better ventilation and is very effective for controlling the transmission of disease.

Hence, it is recommended that air conditioning should not be used in offices or be used very restrictively.

The advice in brief is as under:

1. Residential Applications:

- a) Fans should be operated with window kept partly open. If an exhaust fan is located at a nearby location then it must be kept running to exhaust air for better ventilation.
- b) Desert Coolers must draw air from outside to ensure good ventilation. Windows must be kept open to release the humid air. Portable room coolers that do not draw outdoor air are not recommended.
- c) **Room Air Conditioners (Window/Split AC Type)**
Window AC /Split AC should be operational in the vacant room in the absence of people to cool the premises. However before entry of persons in room, air conditioner must be switched off to avoid contamination through mixed air circulation by Air conditioner. Thereafter ceiling fan should be kept running. Adequate ventilation must be ensured by opening the windows

2. Office Applications:

Following units are generally used in office buildings.

- I **Multiple Hi Wall units** (Window/Split Type AC) used due to ease of installation and low cost.
- II **Multiple Cassette Unit** Ceiling mounted units that can cool upto 50 sqmtr. and can be control individually or as a group.
- III **Tower Units** for larger spaces, where most occupants are not stationary thus, allowing for higher drafts.
- IV **Ducted Units** a mini central Air Conditioning System that is easy to operate.
- V **Fan Coil Units** installed in Guest Rooms, Individual office spaces or Patient wards
- VI **Air Handling Units** can provide better ventilation, Filtration and Coil disinfecting

2.1 Recommendations for Category (I,II & III) Indoor Units

Window AC /Split AC should be operational in the vacant room in the absence of people to cool the premises, However before entry of persons in room air conditioner must be switched off to avoid contamination through mixed air circulation by Air conditioner. Thereafter ceiling fan should be kept running. Adequate ventilation must be ensured by opening the windows Air Filters must be kept clean. Provide adequate Ventilation (Fresh Air and Exhaust). Inspect and clean the indoor unit Coils regularly every fortnight. Ceiling Fan/wall mounted /table fan should be used to increase air movement. Toilet and kitchen Exhaust fans must be kept in operating mode.

It is recommended to keep windows open to have enhanced Ventilation. Exhaust Fans should be installed if not available.

2.2 Recommendations for Category (IV, V & VI) Indoor Units

It is advisable not to operate Centralised Air conditioning system in the present scenario because even if we close return air ducts then contamination can propagate interpersonally within room as offices are occupied by more than one person.

3. Healthcare Facilities

It is recommended to keep the central air Conditioning system non-operational in health care facilities

3.1 Screening and triage, Staff area,waiting room, waste zone , mild and moderate cases ward (Quarantine and isolation wards) and morgue for Covid-19 Hospitals:

In these areas natural ventilation is advised by opening windows and doors.

3.2 Sampling room, Severe and critical cases ward :

Hybrid (mixed-mode) ventilation relies on natural driving forces to provide the desired (Design) flow rate. It uses the mechanical ventilation when the natural flow rate is too low. negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.

In district hospital, where there is sufficient space, natural ventilation may be followed. Such isolation facility should have large windows on opposite walls of the room allowing a natural unidirectional flow (Top to down) and air changes. The principle of natural ventilation is to allow and enhance the flow of outdoor air by natural forces such as wind and thermal buoyancy forces from one opening to another to achieve the desirable air change per hour.
