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YOUR LAB ENGINEERING EXPERT

Points to check before you re-start your lab after COVID-19 lockdown

Ventilation System

- [ ] Start the exhaust blower first, run it for 10 minutes and then start the supply AHU.
- [ ] Check the condition of the filter in the exhaust line i.e. HEPA filter/ Carbon filter etc. Are they damaged? If yes, please replace those.
- [ ] Check exhaust volumes of all fume hoods. Conduct a smoke test and measure face velocity as per ASHRAE 110: 2016 performance test method.
- [ ] Check exhaust volumes of all other exhaust systems: spot extractors, canopy hoods, equipment enclosures, vacuum pump exhaust etc.
- [ ] Check the VAV controllers & alarms for its functionality: Fume hood controller, AHU controller, Bleed controller and Room controller.
- [ ] In case of low flow: check for damper positions, the direction of exhaust motor rotation, VFD set point. They should be as per default design settings.
- [ ] Get Laminar airflow & Biosafety cabinets tested for velocity and filter tests.
- [ ] In case not getting flow in the exhaust equipment like Fume hood, Canopy, Spot extractors, etc., check the fire or zero shut dampers.
- [ ] Check direction of rotation in blower motor and scrubber pump motor.

Air conditioning system

- [ ] AHUS/TFA/ODU's/DX-Unit pre-filter has to be cleaned.
- [ ] AHUS/TFA/ODU's should be switched 'ON' after ten minutes of starting the exhause blower.
- [ ] Once supply air is switched 'ON', labs should be left unoccupied for at least 30 minutes.
- [ ] After stabilization of room temperature, only the users should be permitted to work in the air conditioning lab.
- [ ] In case of BMS, check the live reading once the actual system is stabilized.

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Gas Distribution system 

- [ ] Remove the end connection of the equipment. For non-flammable gas, make sure lines are flushed completely.
- [ ] Check gas cylinder pressure at inlet and outlet with the help of regulator.
- [ ] Set the regulator pressure as per the previous set point.
- [ ] Keep the fume hood taps open for 5 minutes before starting the reactions. Media lines such as raw water, chilled water- supply & return lines.
- [ ] Check end connections for drain lines along with testing for leakages.
- [ ] Check the manifold and pressure gauge in the lab before purification (moisture trap) panel.
- [ ] Check the gas detectors if it is installed in the lab. See the display and record its live reading for leakages if any i.e. for LPG, Hydrogen. Also, check the sufficient oxygen level inside the lab if O2 sensor is installed.
- [ ] Clean all the panels in the gas bank and in the lab also.

Electrical system 

- [ ] Check the main panel MCB/switch of the lab.
- [ ] Check whether the lab lights are working fine without any problems
- [ ] Remove all the connected equipment plug tops from the sockets
- [ ] Check if all electrical sockets are working properly, only then connect the equipment plug top.
- [ ] Check UPS. Switch over from main load to UPS before starting the lab equipment. (Only applies to live equipments)
- [ ] Check DG, if it is working fine, switch over normal power to DG power supply before starting the lab activities

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General

- [ ] Check all the windows are closed properly.
- [ ] Check the door locks are working smoothly.
- [ ] Check the grid false ceiling and see if any tile is displaced. All tiles should be rightly placed.
- [ ] Check the flooring & surface of the lab for any spillage.
- [ ] Check all the fire extinguishers for its pressure, on the pressure gauge.
- [ ] Check the flooring for damages/leakages.