

HOUSE KEEPING CHECK LIST FOR HVAC SYSTEM

SENSIBLE DESIGN, GOOD HOUSEKEEPING
AND MAINTENANCE ARE ESSENTIAL FOR
REDUCING ENERGY CONSUMPTION OF AIR CONDITIONING
SYSTEM

ENERGY EFFICIENT OPERATION OF AIR CONDITIONING SYSTEM

- OPERATE EQUIPMENTS ONLY WHEN NECESSARY
- AVOID SIMULTANEOUS HEATING AND COOLING
PROCESSES WHERE POSSIBLE
- PROVIDE HEATING AND COOLING ACTUALLY
NEEDED

- SUPPLY HEATING AND COOLING FROM THE MOST EFFICIENT SOURCE
- CAREFUL ANALYSIS OF START TIME AND THE TIME NECESSARY FOR A BUILDING TO REACH A COMFORT CONDITION
- OUTSIDE AIR QUANTITY SHOULD BE REDUCED DURING WARMING UP CYCLE (OR) WHEN THE BUILDING IS UNOCCUPIED
- CONTROL SYSTEM MUST BE STABLE
- FILTER / AIR DUCTS MUST NOT BE BLOCKED
- THE EXTERNAL WALLS AND DOORS OF THE BUILDING SHOULD BE EXAMINED FOR OPEN DOORWAYS, WINDOWS ETC

BUILDING SURVEY

(MAJOR ACTIVITY FOR SECOND HALF OF THE SEMESTER)

OBJECTIVE - TO ASSESS THE CONDITION OF BUILDING ENERGY USE AND DETERMINE WHETHER ENERGY EFFICIENCY IS ACHIEVED (OR) NOT

PROCEDURE - AN INSPECTION OF THE BUILDING PLANT (ROOMS TO BE ARRANGED. THE IMPORTANT ITEMS OF EQUIPMENTS TO BE IDENTIFIED AND EXPLAIN.

I PLANT ROOM AND SERVICE

- ① AREA OF BUILDING
- ② NUMBER OF OCCUPANTS
- ③ NUMBER OF DOORS & WINDOWS
- ④ TYPE OF WORK ACTIVITIES
- ⑤ MACHINERIES AND EQUIPMENTS
NUMBER, POWER, (EFFICIENCY IF KNOWN)
- ⑥ FOR RESIDENTIAL BUILDING
FACTS RELATED TO REFRIGERATOR, OVEN, RANGE, STOVE, FANS, TV, COMPUTER (NAME PLATE DATA)
- ⑦ USE OF ENERGY
ENERGY UNITS, GAS UNITS, WATER UNITS (CHECK THE BILLS), BILL IS INCREASING (OR) DECREASING
- ⑧ CHECK THE EQUIPMENTS ARE OPERATED UNNECESSARILY OR NOT. FOR EXAMPLE, TURNING ON COMPUTER WITHOUT ATTENDANCE, HOW MANY HOURS PER DAY, THE EQUIPMENTS ARE TURNING ON WITHOUT ATTENDANCE.

II

FOR COMMERCIAL BUILDING / WORK PLACE

- ① How many WATER CHILLERS are used in AIR COND. SYSTEM?
WHAT ENERGY SOURCE DO THEY USE?
- ② WHAT IS THE ENERGY RATING OF BOLLERS USED IN BUILDING HEATING SYSTEM? WHAT ENERGY SOURCE IS USED
- ③ FOR RESIDENTIAL, PROVIDE INFORMATION ON SIZE, POWER, CAPACITY OF AIR CONDITIONER, FANS, HEATER
- ④ HOW IS THE TEMPERATURE IN THE BUILDING ZONE REGULATED?
FOR RESIDENTIAL, PROVIDE TEMPERATURE CONTROL SYSTEM OF AIR CONDITIONER / REFRIGERATOR
- ⑤ IS COMPRESSED AIR USED IN THE PLANT ROOM FOR WHAT PURPOSE
- ⑥ HOW IS DOMESTIC HOT WATER PROVIDED? IS IT SEPARATED FROM OTHER HOT WATER SYSTEM
- ⑦ WHAT IS ENERGY UNIT RATE FOR GAS, WATER, ELECTRICITY
COMPANY THAT PROVIDES THE SERVICE?

(8) IS THE COOLING TOWER ON THE ROOF?

(9) IS DIESEL FUEL USED IN BUILDING? FOR WHAT PURPOSE

III

(1) IS THERE ADEQUATE LIGHT SWITCHING?

(2) IF MULTI SWITCHING STATION, IS LIGHTING SWITCHED IN ROWS?

IS EACH SWITCH IDENTIFIED?

(3) CAN LIGHT NEAR WINDOWS BE SWITCHED OFF SEPARATELY?

(4) ARE THE CORRECT LAMPS BEING USED FOR THE TASK REQUIRED THEM.

(5) ARE THE CORRECT LIGHT LEVEL BEING USED FOR THE TASK?

(6) DO LIGHT FITTINGS HAVE DIFFUSERS?

(7) IS THE GENERAL LIGHTING LEVEL EVEN ACROSS THE AREA BEING CONSIDERED?

(8) WHAT IS THE LIGHTING LOAD?

(9) ARE LUMINAIRES CLEAN

(10) CAN ANY LIGHT BE DONE AWAY WITH?

IV AIR CONDITIONING

(1) IS TEMPERATURE ADEQUATE?

(2) IS ANY DUCT IN AIR SUPPLY?

(3) IS THERMOSTAT (OR) SENSORS IN GOOD LOCATION?

(4) DO THE DOORS HAVE VENTILATION GRILLS?

(5) WHAT TYPE OF AIR CONDITIONING SYSTEM IS USED?

(6) ARE TOILETS VENTILATED?

(7) CAN OUTSIDE WINDOWS BE OPENED?

FOR RESIDENTIAL

(1) IS TEMPERATURE ADEQUATE

(2) IS THERE ENOUGH DOORS / WINDOWS TO SUPPLY AIR

(3) ARE TOILETS / KITCHEN / LAUNDRY ROOM VENTILATED?

(4) CAN THE WINDOWS BE EASILY OPENED TO EXHAUST AIR

V

WATER

(1) IS THE CORRECT HOT WATER TEMPERATURE BEING SUPPLIED TO TOILET AREAS? (OR) BATH ROOM

(2) ANY TAPS DRIPPING

(3) ANY WATER SAVING SYSTEM IS INSTALLED OR NOT.