



Bulletin

Temporary Usage of HVAC Equipment

Introduction

Today's building owners need to understand the risks involved in using permanent HVAC systems to provide temporary heat during construction.

Owners should consider using temporary heating, cooling and dehumidification equipment specifically designed to be used for climate control during the construction process.

The following provides a summary of requirements of the SMACNA IAQ (Indoor Air Quality) guidelines for an occupied building under construction, 1995, Chapter 3:

- HVAC equipment must be protected from dust and odors.
- The return side of the system is extremely vulnerable since it is under negative pressure during operation. Be sure to watch the location of all intake related parts of the system, whether outdoor air grilles, ceiling plenums, transfer vents, etc. to ensure contaminants are not entering the mechanical system.
- Seal all return system openings with plastic. And, photograph the sealed equipment to document your procedures.
- When there is a lot of debris at the site, that portion of the system where work is going on should be dampered off. If the whole site is at risk, the entire system should be shut down and protected.
- It is preferable not to use the permanent mechanical system, but if it must be used, temporary filters should be added to all appropriate grilles, intakes, etc. These filters must be maintained throughout their operation and then replaced at the end of the project.
- **DO NOT USE THE MECHANICAL ROOM FOR STORAGE.**
- Increase filter efficiency, if necessary, and use activated filters if there are odor problems.
- When systems are off, all diffusers and outlets should be sealed with plastic.
- On existing duct work, professional duct cleaning is sometimes necessary.
- Source control is an important method to keep contaminants out of a building. For the mechanical contractor, this typically means

mandatory use of low volatile organic compound (VOC) caulks, adhesives, sealants, cleaning fluids, etc. This would also include welding, which could be more problematic.

- Pollution sources may be exhausted through local, portable exhaust systems.
- Portable air cleaners may sometimes be required.
- Items that give off VOCs can be controlled by enclosing or sealing.
- Pathway interruption is often used to keep contaminants from spreading through a worksite. This can involve the mechanical contractor when the HVAC system is needed to depressurize the work area. Take care to protect the system when it is used in this way. This might mean extra filter changes and even duct cleaning due to heavier air flow.
- A recommended exhaust rate for negative pressure for this guideline is 10% greater than the supply air rate.
- Whether using positive or negative pressure, always remember to protect the system from contaminants. Do not forget to rebalance the system, if necessary.

LEED Considerations

As a mechanical contractor on a LEED job, it is important to take time to consider the LEED NC version 2.2, which provides a point (EQ Credit 3.1) preventing contamination of building systems and materials during the construction process.

This impacts the mechanical contractor in several areas:

1. An indoor air quality (IAQ) management plan must be adopted. The contractor should receive a copy of this plan before bidding on the job to determine its responsibilities. As the contractor, you may or may not be asked to sign off on the plan, but have a copy signed and dated by the architect-engineer or the general contractor in case changes are made and you are not notified. In some cases, you may even be asked to provide your own procedures on how you keep the mechanical systems free from contaminants.
2. Credit 3.1 requires you to meet or exceed control measures as recommended by SMACNA's IAQ Guidelines for occupied buildings under construction, 1995, Chapter 3. The SMACNA Guideline addresses HVAC protection, source control pathway interruption, housekeeping and scheduling.
3. **This credit discourages the temporary operation of mechanical systems, if possible.**
4. You may also be responsible for keeping logs, whether you purchase the system or not, of filtration media. You will need to list the manufacturer model number, menu rating and location of all filters and verify they were replaced prior to final occupancy.