Getting it Right from the Start…that's Optimization

Process

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puzair
A subsidiary of PV Vacuum Engineering Pte Ltd

PV Solutions To Power Surge/instability!

Electrically driven has been the back bone or preferred choice for driving the motor of most if not all vacuum generation source.

Whilst the strength of the Power Grids in One Region or Country can be a challenge to the stability of the power supply, modern day dynamic has created its own sets of problems too.

Resources Optimization

With the increase use of artificial intelligent in modern day production, production needs are most of the time fulfil based on demands.

In other words, some utilities will only be triggered to operate when demand exceed certain base production or ambient or human sets parameters.

This is a very efficient way to manage resources, saving the environmental from wastage.

However, it does means that the possibilities of a surge or a dip in voltage become very real. This is because in most facility, power demands of utilities are grouped into different distribution panels.

Therefore, the concurrent/ simultaneous starting of many utilities powered from one distribution panel might cause a dip in voltage to every operating utilities that are connected to that panel. ***(The starting Current of a Pump is usually many times higher than its operating current.)***

Of course, distribution panels can be sized to handle the simultaneous starting of all the utilities connected to it. However, this might not be a very prudent approach especially when capital cost is considered.

Production Change

The upgrade or change in production requirement will sometime increase such voltage dip possibilities as new demand are added to a particular distribution panel.

Whilst the temporary stoppage of an utilities might not create major problem, a loss of Contamination Control Vacuum will means that pollutants will migrate & contaminate the clean environment or the close proximity creating a process or clean room contamination or dust explosion hazard.

PV Solution

There are many approach to this problem, some creative, some unorthodox and some in line with proven international standards.

PV's prefer the last option!

Therefore, the design of a Contamination Control Vacuum System in Compliance to SEMI F47 and tested ON SITE for Compliance to SEMI F42 might be the best approach to ensure;

- Such Voltage Dip is managed in a SAFE, RELIABLE, PROVEN, FIELD TESTED MANNER!!!

- Without Damaged to the Vacuum Pumps or Accessories or Endangering any of the staff!!!

Case Study

Please find attached an extraction of Such a Third Party Testing Report on a PV Supplied Contamination Control Vacuum System for up to 50% Voltage Dip Situation without any impact to Production.