

Voltage Sags Drain YOUR Profit

Do YOU know how much they cost per Year?

Voltage Sags cause many Unplanned Production Stoppages

A reduction in one or more phase voltages lasting for only a small fraction of a second can cause production lines to stop unexpectedly.

Even though the event may last only for a few cycles, one tenth of a second or less, it can stop your sensitive manufacturing processes for hours.

The Immediate Impact

- Downtime which can extend from minutes to hours and even days
- Scrap material or expensive rework
- Idle time for your work force
- Damage to valuable machinery
- Potentially missed deliveries to customers
- Time which cannot be recovered

The Result Additional Costs → Loss of Profit

Frequency of Unplanned Production Stoppages

In many industrial processes unplanned production stoppages occur several times a year and are accepted as a normal cost of doing business. It is well known that during stormy weather particularly when lightning occurs lights will dim or flicker momentarily and production systems will cease to operate and have to be restarted.

Studies 'R1' have shown that in North America the average industrial plant suffer from over 60 voltage sag events per year when the voltage drops below its nominal value. In many cases the sag is not large enough to cause a production stoppage but nonetheless the voltage variations will cause additional stress to electrical devices and components and may lead to premature failure.

It is not uncommon to find industries where production is halted by voltage sags between 10 and 20 times a year or even more in some areas.

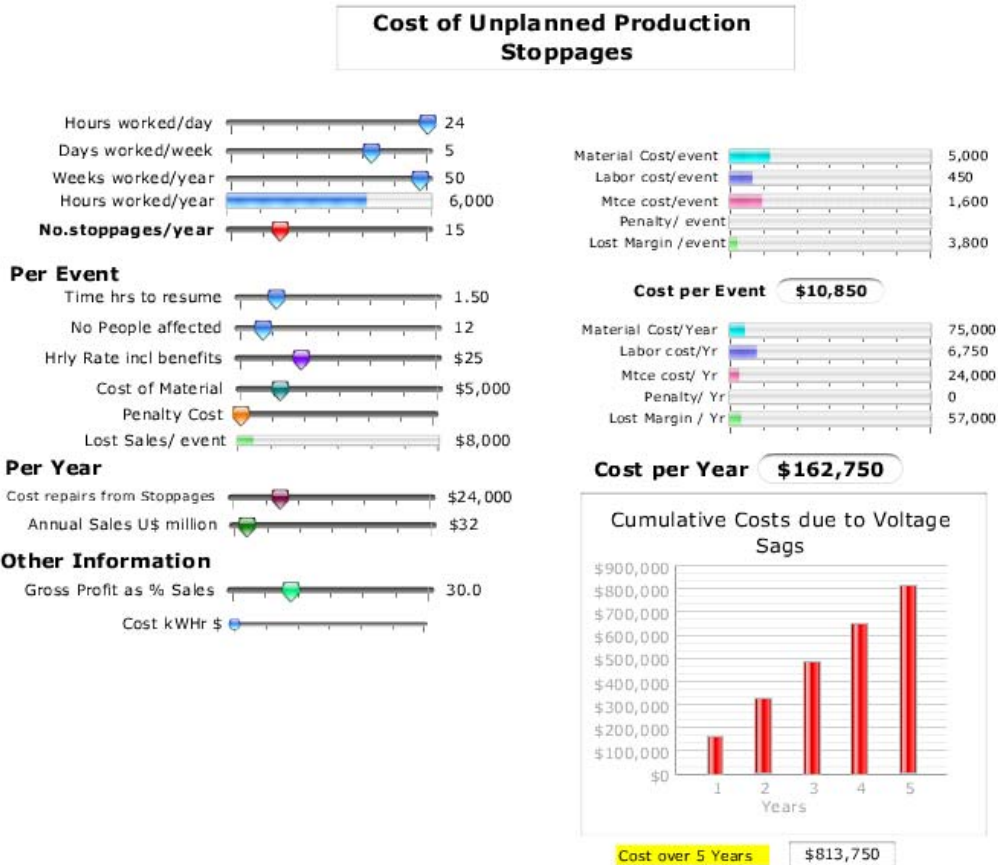
Cost per Event and Cost per Year

Many businesses have no formal method for recording the time and duration of an unplanned production stoppage as everyone is "too busy" getting production restarted. It is therefore not surprising that many of these businesses do not have any accurate estimate of the cost of such an event and even less do they know the annual impact on the whole business.

Typically production personnel view such calculation as an Accounting Issue but their colleagues in Accounting rarely have any hard data on which to base a complete analysis.

A Simple Analysis Tool

Using only simple terms and information which is usually readily available to production management it is possible to calculate these costs with reasonable accuracy in only a few minutes.



The principal is that there are several elements to the cost of an unplanned production stoppage and it is relatively simple to calculate these even using some basic assumptions. By combining the different cost elements it is possible to build up a progressively more accurate overall picture.

Data is added to a template in a logical sequence and the program will calculate costs based on data provided. If at any stage fundamental data or assumptions are seen to be incorrect or should be modified, then only that parameter can be changed and the overall results are updated.

The calculation is based on a conventional spread sheet but parameters are adaptable to many industries and applications. The presentation of the data can be converted to a dynamic format, by using suitable software, as shown above. This allows those working with the data to experiment with "what if" situations and to see the results in a clear visual display.