



# UTILIZING FACILITY ANALYTICS AS A RESPONSE TO COVID-19 FOR HEALTHCARE ENVIRONMENTS

[By Scott Wolf, CxA, CEM, CCP | Principal]

In the healthcare industry you would expect this type of graphing to represent a potential life and death situation in the form of an EKG. However, would you expect this type of complicated graph to be utilized to better understand your facility's performance?

The commissioning and engineering team at the Nashville VA Medical Center realized early on that additional measures would need to be implemented to better support the construction of the highly sensitive Sterile Processing Space [SPS]. COVID-19 went from an unknown to a significant risk during the construction phase. As a result of the COVID-19 safety measures implemented, the construction schedule was accelerated while access to the site became limited.

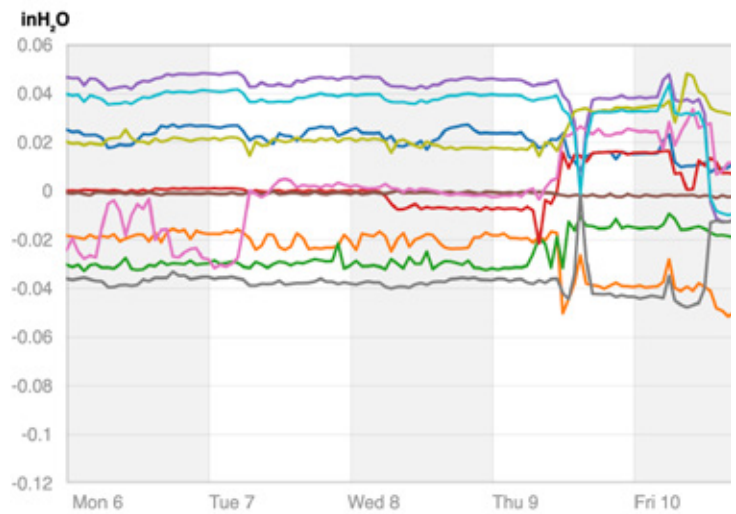
This combination could have had a negative effect on the success of the commissioning process, and therefore the long-term performance of the space. Furthermore, the facility engineering team was concerned about the ability to maintain hospital operations with reduced on-site staff in the event of COVID-19 exposure. They needed a way to get additional resources to support and supplement their on-site team.

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**The use of Analytics helped solve pressure issues in days that would have taken weeks or months.**”

- Kenyon DuPre  
VA VISN 9 Energy Manager



FIGURE F1: DIFFERENTIAL AIR PRESSURE READINGS



This data represents room pressures within a newly constructed hospital sterilization area. It is vitally important to control air flow through pressure differential in a hospital environment to prevent the migration of contaminants from one contained space to another.

Through the leadership of National Facility Solutions [NFS], the commissioning agent for the project, a facility data analytics program was developed and implemented. This approach enabled the NFS team to remotely collect and analyze critical space data. This was done prior to project completion, minimizing the need for the commissioning team to access areas after construction was completed, while providing enhanced ability to monitor and confirm space performance during the post construction/warranty period.

For those who have been involved in projects that require relative room pressures to be maintained, you know how difficult it can be to control and resolve pressure issues. It is like chasing a roof leak where the source of water is unknown, and the roof area is a million square feet. In other words, it is like finding a needle in a haystack. However, through the use of enhanced analytics, mapping and graphing, the team at National Facility Solutions was able to provide real-time, remote engineering guidance and technical support to the on-site team.



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Through the interpretation of real-time data and daily communication between the remote commissioning team and the on-site facility engineers, space pressurization issues were identified and resolved. The NFS team was able to remotely monitor current conditions as the site team sealed areas that did not meet the design pressure requirements. Corrective measures such as sealing wall penetrations, adding door seals, gasketing ceiling tiles and many other small adjustments were made which allowed the rooms to maintain the required relative pressures.

Implementing the enhanced analytics with remote monitoring enabled the commissioning and hospital teams to resolve issues in days as compared to months. This rapid resolution enabled the hospital team to move into their space earlier than expected, thus saving \$200,000 per month for the use of temporary space.

While we don't often think of construction and facility performance in terms of data and analysis, the advancements in technology and cyber security now allow for the ease and secure collection of system data. Thus, data has become a continuous source of detailed information, that when combined with facility expertise and a willing team, can achieve performance improvements and successful issue resolution.

**FIGURE F2: VIEW ABOVE CEILING**



Properly sealing all penetrations is critical to maintain relative room pressures.



## MEET THE AUTHOR

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Scott Wolf has dedicated his 25-year career to the advancement of building efficiency and performance. Prior to co-founding NFS, he developed and managed the commissioning program for one of the nation's largest commercial developers. Today, he continues to bridge the gap between technology and facility performance through the development of industry leading software and performance management tools.

## CONNECT WITH NFS

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