

Case Study: Fort Meade Lab

Background

The Forensic Toxicology Drug Testing Laboratory identifies drugs of abuse in the Department of Defense (DOD) personnel. The lab assists commanders, Medical Review Officers, and military lawyers in interpreting laboratory results. They also provide litigation and expert witness support for all adverse actions. Counter-narcotics funding supports the operations of the forensic toxicology drug testing laboratories. All military Service member urine specimens are collected under direct observation with strict chain of custody documentation and secure specimen processing pending shipment to the supporting regional military drug testing laboratory.



The Challenge

The Fort Meade Laboratory in Maryland uses Forensic Toxicology Drug Testing Laboratory uses two large-volume chemistry analyzers that require deionized water to perform screening immunoassay testing for drugs of abuse for the DOD Military and Civilian personnel.



In the past, the laboratory has had issues with the water pressure available being able to keep the deionized water system up and running with the amount of treated water necessary to keep the instruments operating. When the instrument sensors detect an inadequate water flow, the instruments shut down with no notice. When the instruments suddenly shut down, the technicians often have to retest as many as six batches of specimens, correct the water issue and get the system started again, wait for a supply of water to be generated in the water reservoir, re-start the instrument and possibly recalibrate the instrument, all which can take up to two or more hours.

The laboratory personnel recognize that when the water pressure drops for reasons within the community (line breaks, excessive use, water line flushing) that this does trigger the same error -inadequate water flow shuts down the instruments. The laboratory installed an auxiliary pump to keep the water pressure being supplied to the deionized water system operating through some of these events, however, when the water flow is decreased the auxiliary pump recognizes the issue and it shuts off to save the pump. The chemistry instrument will continue to run until the reservoir is empty, and then shut down. The laboratory personnel has no way to know that the water system is malfunctioning until it is too late.

The Solutions

It is suggested that a water pressure sensor be placed between the auxiliary pump and the deionized water system. The water pressure sensor will be monitored by the Mesa Labs' AmegaView software, so that when the water pressure of the sensor drops below a designated pressure, the AmegaView triggers a phone call to a phone list of individuals that have access and knowledge to determine how much water is left in the deionized water system reservoir and can put the chemistry instruments into standby in a manner that saves the laboratory the extensive list of issues that an unplanned shut down generates. The advanced warning provides the laboratory personnel the time needed to properly handle a shut down and will save time, money and work.

Source Info

- <http://prhome.defense.gov/Military-Deputy/PRRO/DDR/P/Mildrugtesting/>
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