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Performing Natural Gas Blows

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Just recently, OSHA issued a letter ¹ regarding the concerns and remedies associated with the implementation of natural gas blow evolutions. This letter was precipitated by the impacts of the explosion that occurred earlier this year, that captured the concern of everyone involved in the construction, commissioning and startup of power plants.

In the process of commissioning a natural gas supply system at a new facility, it has been a common practice for years and years to utilize the gas supply of the utility to blow out the lines until all debris and moisture are removed. This ensures that the gas line is clear of construction residue, water and particulate matter, which makes the gas supply line clean for use. Clean, in this instance, also means that the newly constructed gas line is free of impurities (after purging) and reduces the chances of importing unwanted elements into the gas turbines (or other gas-burning equipment).

The inherent dangers of utilizing natural gas as a purging medium, and the subsequent venting of large volumes of gas, are apparent – there is no doubt about that. This kind of procedure must only be performed with the application of vetted procedures and compliance with all applicable safety standards, concurrence and communication among all respective project parties, interface with regulatory and emergency standby entities, and only performed by experienced, qualified professionals in the commissioning and startup business. As noted in the OSHA letter, avoiding incidents will be enhanced by “...the exercise of common sense, the adherence to OSHA standards and industry-accepted safety procedures, and following internal safety rules”. ¹

There are opponents that recommend an absolute ban on natural gas blows altogether ². Are there alternatives? There can be. Utility-supplied gas is used because it exists in large volume and can also provide the velocity required to blow out the new project’s gas system. In some instances, gas lines are smaller and alternative gases, such as nitrogen or air, can be provided at volumes and velocities that achieve a thorough cleaning. Utilize other mediums is an important option that must be calculated in order to determine its feasibility, and that option should be always be explored before settling on the type of gas to utilize in the blow procedure.

In our history of power plant commissioning and startup, UEI has often conducted (or participated in) natural gas blow evolutions without incident. And it’s common that this kind of evolution is performed at many projects safely and effectively, and has been for many years. UEI maintains safety standards and guidelines via our company Safety Manual, and additionally we always comply with the resident constructor’s safety requirements. As an added measure, UEI has recently issued a Field Notice ³ that was distributed to all field management and supervisory personnel. This is a common practice at UEI to keep all of our field personnel advised of current/new issues and especially safety concerns in the industry.

Even though the incidence factor for explosions has been extremely low considering all of the gas blow evolutions performed to date, there is no consolation for the victims and families of those individuals who lost their lives in performing this type of procedure. Any incident of this nature serves as a reminder to all of us that there are conditions and processes at power plants and other energy and petrochemical facilities that are indeed “inherently dangerous” ¹. But then again, that is why the industry utilizes commissioning and startup professionals like UEI to perform critical evolutions of this nature.

UEI wants to remind all of our personnel, managers, field engineers, technicians and operators, to follow all safety measures, use common sense, look out for each other, and at the end of the day, come home safely to your family and friends.

Let’s be careful out there.

¹ OSHA, Dept of Labor, Letter of 27Aug2010

² <http://www.csb.gov/UserFiles/file/FINAL%20Urgent20Recommendations.pdf>

³ UEI Field Notice 10090701 dtd 7Sept2010