



5 GAS RISKS TO WATCH OUT FOR DURING OIL & GAS TURNAROUNDS

Honeywell

Turnarounds are a regular and much needed maintenance activity that oil & gas plants simply couldn't live without. They do, however, expose workers to more frequent and more unexpected risks than day-to-day operations. Toxic and flammable gas can be especially dangerous, but, luckily, there are solutions to keep them at bay. Here are five risky environments/situations to watch out for during turnarounds and tips on how to handle them safely.

CONFINED SPACES

1

Confined spaces, including shafts, manholes, tunnels, tanks and vessels, are a common sight during oil & gas turnarounds. They are also among the most dangerous workplaces. Gases can build up inside them and there is also a high risk of oxygen deficiency, adding to restricted movement, reduced lighting, communications challenges and limited rescue options. Clearly, confined spaces are places to avoid at all costs, but, sometimes, this is simply not an option during turnarounds.

SOLUTION

Adopt a two-step portable gas monitoring procedure: **1)** test the atmosphere inside the confined space before entering **2)** monitor it continuously when inside. A portable gas detector combined with confined space entry accessories such as manual aspirator kits and a sample hose with probe are what's needed during step one. During step two, use one or more 4-gas simultaneous portable gas monitors (depending on how many gases are present). A robust alligator clip/harness is another must have that ensures hands are always free.



AREA GAS RELEASES

2

Maintenance operations during turnarounds often involve a range of chemicals, solvents and gases. Even if these are handled carefully, unexpected area releases of noxious gases, vapors, fumes, dust or mists can pose an airborne threat to workers and contractors throughout the facility and sometimes even to the general public living nearby.

SOLUTION

Use wireless gas detectors for remote, real-time monitoring to detect area releases and send immediate, Internet-based alerts to workers or even the general public. With data collection, aggregation and logging, you also have a permanent, time- and location-stamped, verifiable record of the incident. A low-cost option to consider for quick, accurate and compound-specific measurement of over 300 toxic and combustible gases/vapors are Colorimetric Gas Detection Tubes.

HOT WORK

3

Whether it for maintenance, repair or new equipment installation, 'hot work', including welding, cutting, brazing, soldering and grinding, is commonplace during turnarounds. These essential tasks, however, have their downside. The accidental ignition of flammable or combustible materials can cause fires and explosions while flammable gases can leak into the environment from hot work equipment.

SOLUTION

Always inspect the area before the work starts and issue a permit showing that the site has been cleared for hot work. When it comes to confined spaces, allow for enough time to purge any vapors from inside before hot work starts. Also, use gas detectors when hot work is underway to make sure the atmosphere stays 'inert' meaning oxygen levels are too low to support combustion.





EQUIPMENT FAILURE

4

Unfortunately, even critical safety devices can break. The outcome is costly downtime for repairs or remonitoring/remediation of suspect areas at an unusually busy time when no one can afford to wait. More importantly, when equipment such as gas detectors stop working, the risk of worker injury or death inevitably increases.

SOLUTION

Make sure that your workers use only on gas detectors from a shortlist of trusted products. This must be limited to products that have proven to meet all your specifications for ensuring safety, productivity and profitability. Opting for gas detectors that guarantee longevity in the field is also paramount.

POOR MONITORING

5

Keeping every worker safe during turnarounds is what every health and safety manager strives for. But, with high numbers of temporary contractors performing a variety of hazardous tasks against tight deadlines, it can be a challenge. Plus, you need to ensure that workers use the correct gas detectors for the task and that regulatory/compliance requirements are met.

SOLUTION

Use software as an intelligent management tool, combining it with wearable gas detection, position tracking and 24/7 wireless connectivity. In this way you'll gain real-time access to wearable biometric and threat-detection monitors as well as worker status and location information. Thanks to data logging, you can also keep on top on training, inventory management and compliance.

ProcessMeasurements and Controls

2101 CityWest Blvd

Houston, TX 77042

www.honeywell.com

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