CRUZALTA

Equipment Validation Solutions

PRODUCT BULLETIN

THE CHALLENGE

Many in the industry use vessel validation strategies that require traditional Permit to Work gas testing equipment. This equipment is designed to facilitate testing of a confined space in a static environment, not the dynamic conditions presented during decontamination where the ability to accurately sample under an inert and steam atmosphere is critical. Misalignment of equipment KPIs, cross-sensitivity with some hydrocarbons and cleaning chemistry, coupled with inconsistent sampling methods lead to inaccurate data and sample results, which ultimately lead to delayed cleaning progress and extend timelines.

CruzAlta's "no-surprise" approach to equipment decontamination sampling and analysis allows clients to determine what is inside the vessel before opening to atmosphere. This solution provides accurate data clients can review during the execution, take quick action as needed, and leverage for future cleans. This process also prevents potential exposures and safety-related events when opening equipment post cleaning.

CruzAlta's Equipment Validation service is proven effective for all traditional cleaning methods including steam, nitrogen, water, and chemical cleaning. By eliminating the erroneous results that often occur when improper methods are used, the benefits of right the first time sampling results as well as decreased staffing, reduced onsite sample time, and reduced load on the product control lab are realized.

THE SOLUTION

CruzAlta uses a closed loop sampling process to reduce sampling delays and quickly identify cross-contamination of equipment. This provides reliable sample results (in the field) in less than 15 minutes, which enables facility personnel to act quickly. Our specialized sampling equipment is pre-configured to specific components and vessels the client has previously identified, which ensures KPIs are successfully measured and compliance standards are met.

CruzAlta personnel work closely with the facility's Operations, Environmental, and Engineering teams to collectively align on the KPIs and determine the targets and sample locations to ensure the system cleanliness.

The collected samples are "conditioned" to provide accurate analysis. The sample results are then recorded into CruzAlta's sample tracking system and uploaded into the shared client portal. This documentation provides data records and a means to archive the validation after the decontamination.

CruzAlta will provide the client and chemical cleaning contractor condition-based decision-making improvement opportunities and path forward guidance that supports facility KPIs achievement.

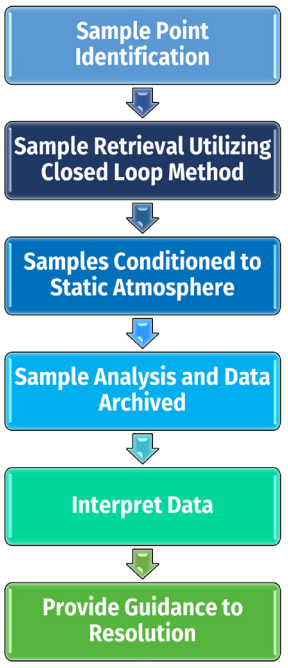
THE PROCESS:

PRE-TURNAROUND

1. The recommended dynamic approach is based on the scope of work, systems/time, and the number of samples required.
2. Interact with the Operations, Environmental, and Engineering teams to identify the targets and specific sample locations to reflect the system cleanliness *(~3 mos prior to feed out).*
3. Add sample locations to the decontamination drawings to serve as reference points for teams.
4. Identify and file tag all sample points. Set up and calibrate the analysis equipment *(2-3 days prior to feed out).*

DURING TURNAROUND

5. Collect and retrieve samples at the pre-determined locations, in accordance with shutdown sequence.
6. Condition and analyze samples and enter results into CruzAlta sample tracking system.
7. Interpret the sample data, communicate with client, and identify any gaps in cleaning KPIs.
8. Collaborate with the chemical cleaning vendor and client to provide mitigation recommendations as needed *(especially if equipment results do not meet the pre-determined targets and regulatory standards).*



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