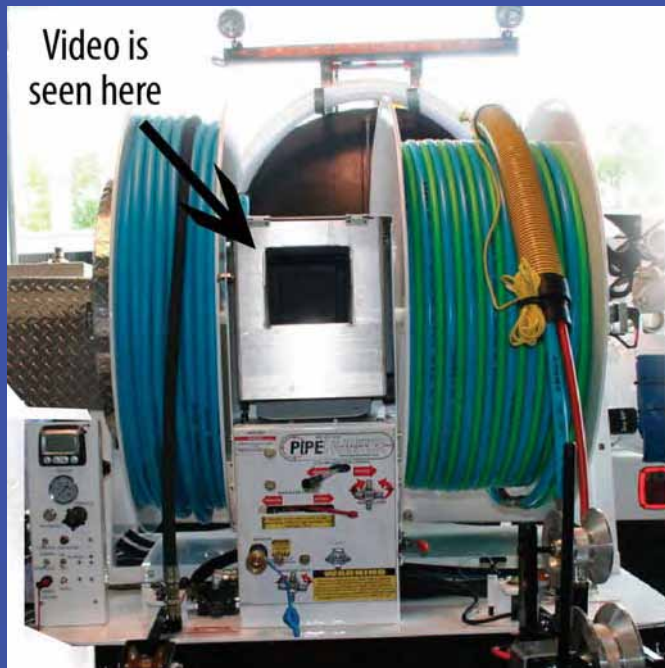


Pipe Cleaning

Product Profile:

Integrating a Cleaning Program to CCTV

By Joe Purtell



CUES, a leading manufacturer of CCTV pipeline inspection equipment and inspection software for the wastewater and stormwater industry, has released a new application for pipe cleaning that enables utilities and contractors to improve the coordination between the cleaning and CCTV inspection departments.

The new solution increases operating efficiencies by integrating the activities of both departments so labor and equipment can be optimized. Sewer and storm pipe cleaning should be performed as a routine maintenance program for all collection systems. Using a high-pressure water nozzle to flush dirt and debris down the pipeline to the nearest manhole, a vacuum truck will suck up the material and dispose it according to local regulations. The hydraulic cleaning method works especially well where debris has accumulated in pipes that have minimal slope or are in areas of high commercial activity. Maintained lines help retain the capacity of the system and prevent blockages that can lead to sanitary sewer overflows (SSOs), which are a key metric watched closely by regulatory authorities. Cleaning and CCTV pipeline inspection go hand-in-hand.

Across North America, there are an estimated six pipe cleaning vehicles for each CCTV inspection vehicle. Therefore, it is nearly impossible for television inspection crews to keep up with the productivity of the cleaning crews. Since CCTV inspection yields better results after pipelines have been recently cleaned, optimizing the planning and scheduling of these inspections is critical. Pipe can become unclean in just a matter of months. CUES has introduced a low-cost method using its newly released Granite XP Lite software in the cleaning/vacu-

um trucks to allow crews to provide daily cleaning status updates back to the central office to simplify the planning and scheduling activities for both departments. In the Granite XP software, a specific "Cleaning Code System" is created to separate the codes used for cleaning from the codes used by CCTV, although some identical codes can be replicated.

Creating the right set of observation codes that meet your utility's needs is critical because pipeline data collected by the cleaning crew will be aggregated into a central database where reports can be generated to identify patterns and relationships between, for example, customer trouble tickets, SSOs and current cleaning frequencies. Managers can also run many reports to, for example, measure a crew's linear foot production, the overall percent completion for yearly target goals, the quantity of cubic yards of debris removed this week, pipes likely to fail soon, etc. Also, where a GIS system is established, managers and dispatchers can visually see the cleaned pipelines on a map, color coded in green (or purple as noted below) with a 'date cleaned' label, to reflect that the pipeline's current status, which could then be assigned to the CCTV department.

The integrated system can be updated on a daily basis automatically without human intervention though the use of the Granite XP Scheduler Module.

CUES offers two cleaning solutions geared for two different philosophies typically found in the industry:

- A. Cleaning with Video (camera attached to the cleaning hose)
- B. Cleaning with no video (traditional, nozzle only)

There are 3 basic benefits for video capture while cleaning:

1. Ability to see what's happening:

The operator is able to see blockages and identify specific types of defects in the pipe to be quickly recorded in the software for prioritization planning. It removes the guesswork that operators employ in the traditional cleaning method to determine the cause of a stoppage. With video, the cleaning inspection can ensure the pipe was cleaned thoroughly and allow the operator to correctly assess the condition — and see the 'before and after' to know that roots or debris was completely removed.

2. Triage lines more effectively for CCTV Inspections:

With better data, management can more effectively plan televising and repairs because "Pre-TVing" reduces the false diagnoses that often deploy scarce CCTV labor and equipment to lines that don't need to be televised. Video can show structural problems to justify a high priority ranking for a particular line to be televised, and allow it to be put on the schedule.

3. Operational efficiency gains:

Because the operator can see what he or she is doing, the nozzle speed can be controlled, as well as the water pressure to consume less water and reduce unnecessary wear and tear on the equipment and the operators themselves. By one cleaning equipment vendor's account, the reduction in operating cost savings is estimated at 400 percent. Traditional cleaning techniques have the operator making two to four passes per line, often with water pressure too high. Seeing the line reduces water usage and optimizes the vacuum so excess dirty water isn't needlessly being extracted, hauled and disposed.

Granite XP Lite is relatively low-cost software that can provide enormous productivity gains. Along with the software, CUES provides a ruggedized laptop that can be tray-mounted with Velcro in the cab of the vehicle or packaged into a purpose-built suitcase for easy portability. The video capture feature can also be included in these configurations as well (Mpeg 1 and 2)..

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