Valve application News...
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Taking the Guesswork Out of Surge Control and Surge Control Valve Selection

New Pipeline "SurgeView" Analysis

One of the most complex challenges a design engineer faces in dealing with pipeline surges is to determine the best way to provide proper protection. Whenever there is a change in pipeline velocity, a potential surge problem can develop. Pipeline surge problems can be caused by many events including, but not limited to, the following.

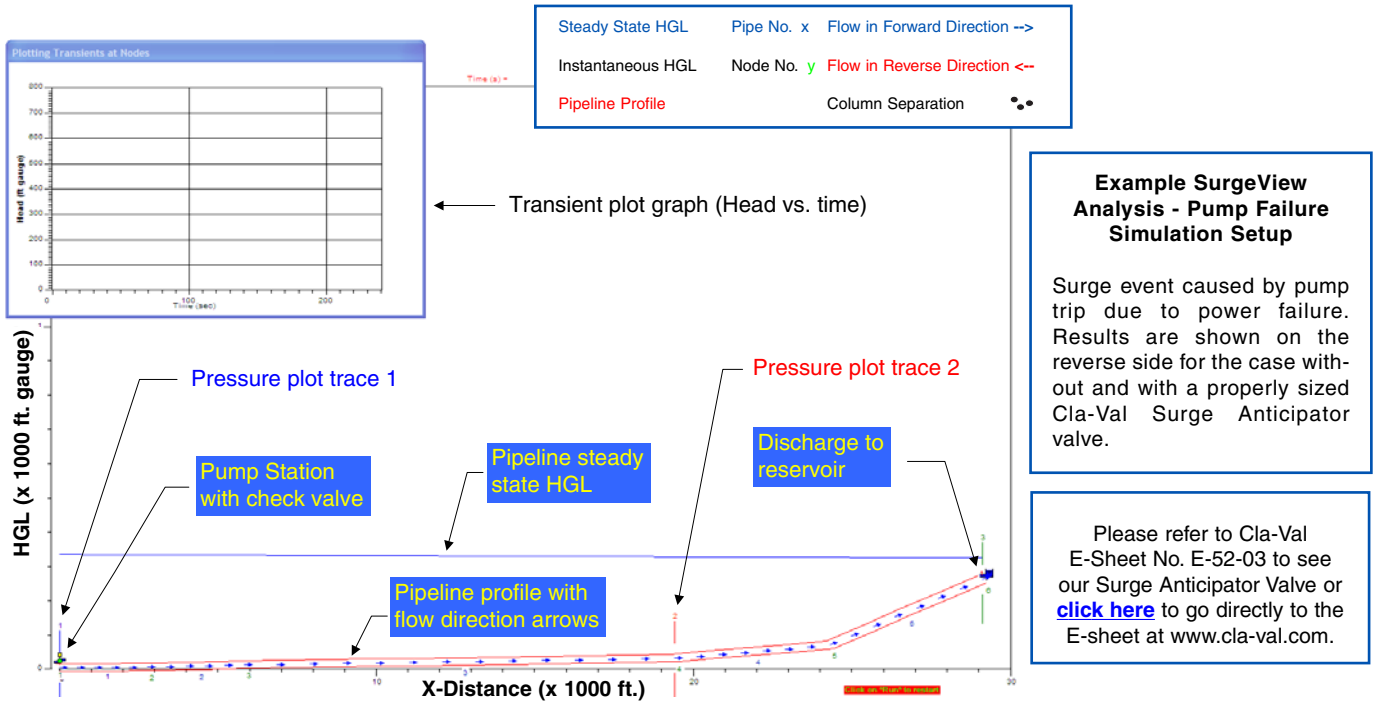
- Pump trip or failure
- Fast closing or opening valves
- Air valve or check valve slam
- Sudden system demand changes
- Oscillating control valves

Typically, "rules of thumb" are used when deciding how to solve complex problems and certainly, selecting surge control measures is often done based on past experience. It is important to remember, however, that since many variables can contribute to pipeline surge, including the length of pipeline, pipeline profile and sensitivity to overpressures, each situation should be considered as unique.

Cla-Val offers many control valve and air valve solutions to prevent and control pipeline surges. With the introduction of our new SurgeView Analysis software, it is now possible, during the design process, to evaluate various strategies to optimize the selection of appropriate valves and sizes. One can also determine which valves will be the most operationally efficient and most economical. For existing valve installations, our surge analysis software can also help to determine safe valve operating times or which control functions should be added to solve or prevent surge problems.

How it Works

Cla-Val's SurgeView Analysis software simulates the entire pipeline and the dynamic conditions that result during a surge event. A graph of pressures over time is superimposed on the pipeline profile during the analysis with maximum and minimum pressures shown along the pipe. An animation is displayed during the analysis showing surge waves as they travel along the pipe. The engineer, using either Microsoft PowerPoint or Windows Media, can also view these animations. The examples shown below and on page two illustrate the software's capabilities.

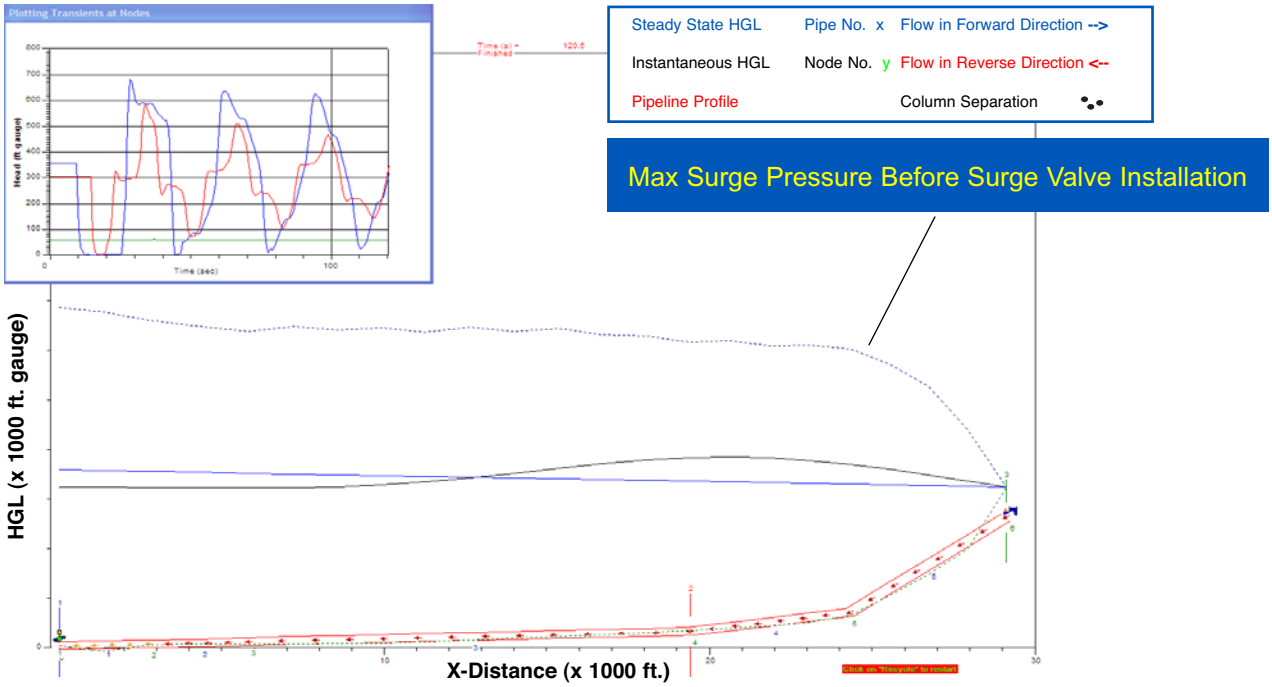


Example SurgeView Analysis - Pump Failure Simulation Setup

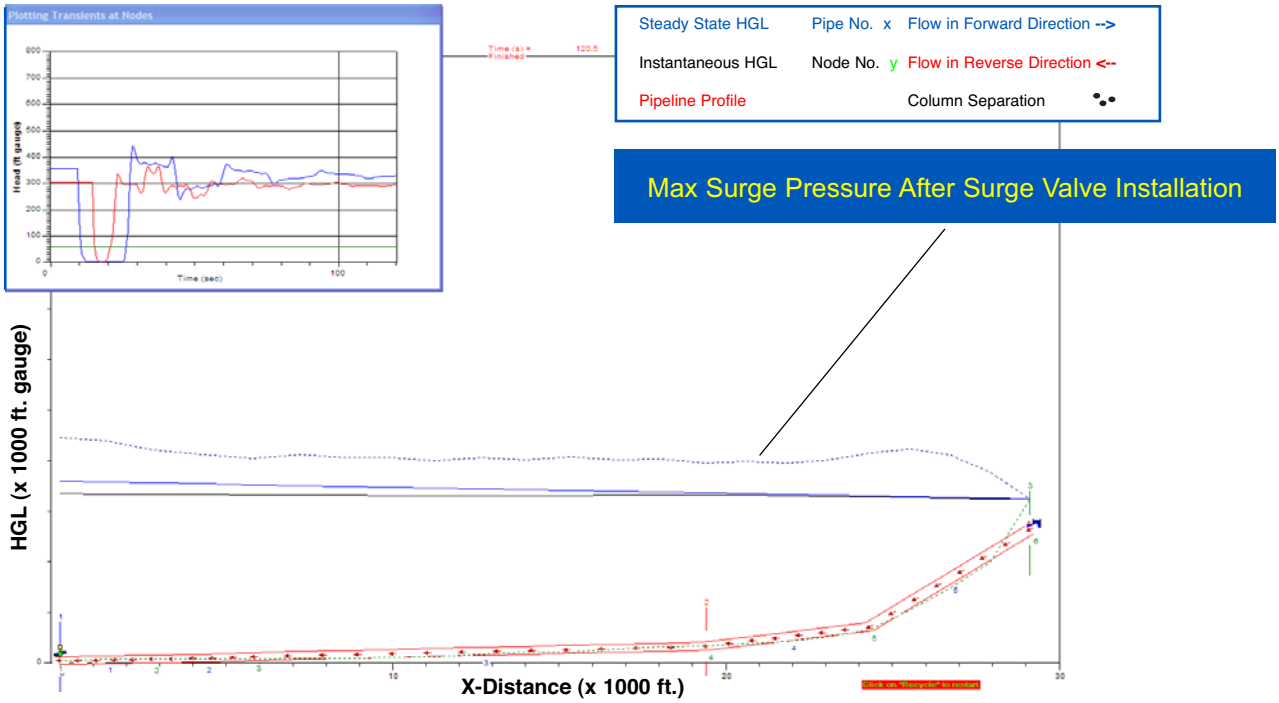
Surge event caused by pump trip due to power failure. Results are shown on the reverse side for the case without and with a properly sized Cla-Val Surge Anticipator valve.

Please refer to Cla-Val E-Sheet No. E-52-03 to see our Surge Anticipator Valve or **click here** to go directly to the E-sheet at www.cla-val.com.

Example – Pump Failure Without Surge Anticipator



Example – Pump Failure With Surge Anticipator



To take the guesswork out of selecting the best option for controlling surge in their new or existing pipelines, design engineers and system operators are urged to utilize Cla-Val's newest innovation -- our SurgeView Analysis software. Contact your Cla-Val sales agent for more details. **Click here*** to see animations online or visit www.cla-val.com/News/Cla-ValNewPipelineSurgeViewAnalysis.ppt

*Requires upgrading to Adobe Reader 6.01

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