



Monitoring Overstresses in Critical Piping Systems Resulting from Upset Conditions

Critical process piping systems are key to the successful operation of process units and when upset conditions occur, it is very beneficial to know what happened to the piping system such as:

1. How much movement occurred at various locations in the piping system,
2. What loads were exerted on process equipment nozzles and
3. What stress levels were experienced in the piping system.

Monitoring these data can provide your engineers with the critical information that can enable them to anticipate piping failures prior to their occurrence thereby avoiding costly downtime.

As process plants age, piping systems and components are subjected to high pressures and temperatures continuously and to upset conditions which can include excessive pressures and temperatures as well as occasional movements/loads from earthquakes and process upsets. The critical piping systems are then subjected to these conditions at various times during the life of a piping system. With today's technology, we are able to relatively easily determine the steady state movements, loads and stresses and now PipingSolutions can provide you with the ability to monitor movements, loads and stresses resulting from each occurrence of upset conditions.



TRIFLEX^{®-SM} has been developed in order to provide operating companies with the tools that will enable them to monitor piping movements, piping loads and piping system stresses on a continuous basis and identify conditions that were not anticipated in the original design. **TRIFLEX^{®-SM}** lowers operating costs of piping systems by providing users with:

- ◆ Immediate reporting of unexpected stress levels in the piping systems and loads on equipment.
- ◆ Identifies highly stressed portions of pipelines so that periodic physical inspections can be made only of those areas, thereby avoiding the necessity of inspecting the other areas of the piping systems.
- ◆ Monitors movements at pipe hangers and supports which can identify problems without a physical inspection. A log of pipe hanger movement can be generated and pipe support failures can be pinpointed easily.

TRIFLEX[®], a well-known name in piping stress analysis since 1971, provides piping stress analysts with an easy-to-use program to quickly and accurately analyze piping systems for the effects of pressure, temperature, weight, and other static loads as well as a variety of dynamic loading conditions.

TRIFLEX[®] has been successfully used to analyze piping systems from the simplest to the extremely complex and the accuracy of the results has been documented.

TRIFLEX[®] has been a leader in the implementation of innovation for years. **TRIFLEX[®]** produces complete results that document the behavior of a piping system and associated structural members in accordance with industry accepted codes and standards throughout the world.

Contact us to learn how you can save money with **TRIFLEX^{®-SM}** in your facility:

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