**“SURGE ANALYSIS TRAINING COURSE”**

Surge pressure or water hammer is always misunderstood by engineers. Most of the time it is analyzed by process engineers where its Impact on piping routing and stress analysis is not known. We try to bridge the gap between ‘Surge Pressure’ & ‘Surge Force”. Also cover the theory & Practical problems to mitigate the surge.

***SYLLABUS:***

1. Engineering basics required to understand Surge Analysis.

* Static Head Calculations
* Absolute & Gauge Pressure
* Pump Curve
* NPSH Requirement
* Friction Loss in Pipe
* Valve Cv Calculation
* Various types of Valve and their closing characteristics
* Reading of Piping drawing
* Bulk & Elastic modulus
* Vapor Pressure

1. Surge Calculation from manual methods
2. Surge Analysis using AFT Impulse Software
3. Case Study

* Valve Closure Case
* Pump Trip Case

1. Surge Mitigations

* Air Relief Valve
* Anti-surge Tanks