

CASE STUDY:
Replacement of valve using Pipe Freezing Service



Alstern Technologies is a renowned pipeline solutions provider. We provide one-stop cost-effective pipeline solutions to our customers with the objective of optimizing their assets while minimizing operational downtime.

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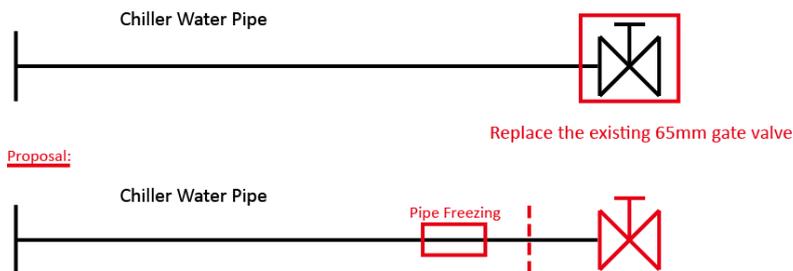
Case Study: Replacement of valve using Pipe Freezing Service

Background information:

An office tower in Central, HK is going renovate the chillers system and diversion of chilled water pipe to fulfil the tenants' needs, and intent to face the problem of pipeline and parts aging. Due to the office tower has housed many Famous Global Investment Banks and Data Centres, therefore absolutely require the air condition system to be maintained in 24 hours x 7 days. During the renovation, they found that one of the gate valve which control the chilled water system is mal-functional and need to be replaced immediately, but cannot interrupt the operation of chiller water system of the building.

Proposed Solution:

Alstern Technologies was invited to site for making solution. As to avoid interrupt the operation of chiller system in the building, Alstern proposed to replace the Gate Valve by using Pipe Freezing methodology as illustrated in this figure.



Site Operation:

After our on-site assessment and evaluation, the pipe freezing location was fixed. Non-destructive Ultrasonic flow measurement test was conducted to ensure the there was no water flow in that section of pipeline first.



Installation of pipe freezing jacket at proposed location



Measure pipeline temperature during the entire pipe freezing process



Pipe Freezing at proposed location

After the test, install the pipe freezing clamp on that section of pipe and connect it to Nitrogen cylinders. Our specialists will keep monitor the temperature profile change in entire process. Hot work and valve replacement work can be carry out after our specialists confirmed the ice-plug was formed successfully. While the replacement of valve was done, our specialist will remove the pipe freezing clamp and let the ice plug defrost by natural.

The entire pipeline alteration project was completed successfully in around 4 hours. With another remarkable successful project under its belt, Alstern Technologies remain unrivalled as one of the most established pipe freezing companies in the Asia Pacific region.