## 26th National Symposium on Cryogenics and Superconductivity

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## Pipe freezing - Rectification of Pipelines

## Content:

Pipe freezing is an essential tool in the maintenance of all types of liquid storage, process and transfer pipelines. The range of applications in which pipe freezing can provide cost effective solutions is both extensive and diverse. The majority of liquids that flows through the pipe such as water, oil etc. can be frozen and quickly form an ice plugs while giving personnel time to carry out the work for rectification. The ice plugs can be maintained over a period of hours, days or even weeks if and when necessary. A continuous LN2 supply is required. As heat is exchanged between the pipe contents and the freeze system comprising of LN2 supply, the temperature of the contents is reduced and an ICE PLUG gradually forms from the outer wall inwards towards the centre of the pipe. Once the ice plug is formed, suitable checked and tested the pipe can be broken into and work for rectification can be carried out. The ice plug can be maintained for an indefinite period until the work is completed and the pipe work is made safe.

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