Frost warning service

Challenge
Prolonged sub-zero temperatures caused damage to external pipe work at a steel mill and emergency repairs and lagging were not sufficient to prevent a close down of the plant at a busy period. A further challenge was to contain liquids escaping from the burst frozen pipes.

Solution
The first step was to provide a warning service to the environmental team to advise of similar events occurring during that winter. The Met Office set up an alert system for the operations department which provided advance warnings of the risk of prolonged cold spells. The second step consisted of a climatology study of the area to identify the risk of similar events occurring in future winters.

Benefits
The warning service was sufficient to deploy the emergency lagging and protect the pipes from sub-zero temperatures and burst pipes. The return periods and extremes of cold weather from the climatology report were used to assess the cost-benefit of investing in long-term frost protection for the plant and provide a better understanding of the risk of prolonged cold snaps.

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