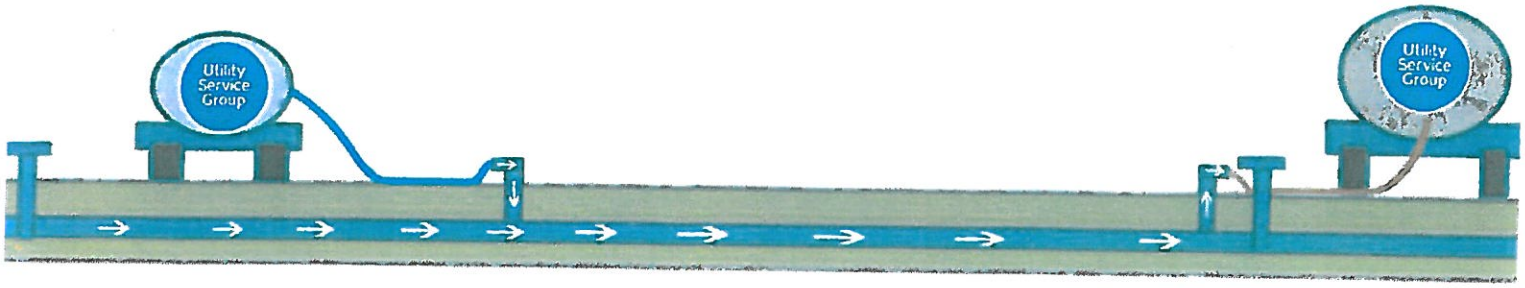
Utility Service Group

ICE PIGGING

Advanced pipe cleaning technology for sewer and force mains

Frequently Asked Questions

- **Q: What is in the ice?**
- A: Making the ice is a specialist process carefully developed with the understanding of how ice crystals are formed and maintained. We use a freezing point suppressant to control the consistency of the ice normally the only chemical additive being food grade sodium chloride (salt) in small quantities. The ice is completely harmless.
- **Q: How does ice get into the pipe, how is it removed?**
- A: Ice can be inserted, and extracted, through many points. In the past we have used fire hydrants (preferable), air release valves, blow offs and even DMA / WWMD meters.
- **Q: What is required to be done to the pipe prior to cleansing?**
- A: Nothing, there is no pretreatment of the pipe required.
- **Q: How long is main out of service and are by-pass mains required as part of preparation work?**
- A: A typical operation will be less than 2 hours, this will include the isolation of the main, ice pigging operation, flushing and sampling and returning the main to service. There is no need for by-pass mains.
- **Q: How many passes does this technique need to cleanse the main?**
- A: Normally one pass is sufficient but in certain circumstances more may be required. This depends on many conditions: the type and amount of sediment, and the length, material and diameter of main are all considered.
- **Q: How long will the ice last?**
- A: Ice has a life of about 18 hours, this depends on ambient temperature. This means that if the ice needs to travel from the production site it can safely travel for several hours and still be in perfect condition.
- **Q: What flow conditions are required?**
- A: Depends upon the diameter of the pipe. Typically 250 GPM for a 6" main
- **Q: What about waste disposal?**
- A: Waste has to be considered before any ice pigging operation. The preferred method of waste disposal is discharge to sewer or collect the ice pig in a tanker (provided by water authority), but flush to waste just before and after ice pigging. De-chlorination must be considered if discharging to watercourse.



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FAQ'S cont...

- **Q: How much flush water is required afterwards?**
- A: Very little is normally required post ice pigging. The quality of the water is very good and returns to within limits very quickly, typically within ¼ - ½ pipe volumes.
- **Q: Will it affect the WWTP**
- A: It is all about dilutions. What volume does the plant usually take in a day?
- **Q: How much (length) can the ice pig clean in an operation?**
- A: The length cleaned is dependent on the pipe diameter and material. Typically; 2 ¼ miles of 6" PVC or 1500' of 12" Cast Iron Unlined
- **Q: How do you deal with customer service connections?**
- A: Either, a) isolate all corporation taps prior to ice pigging operation, or b) leave service connections open. The ice passes the connections in a very short period of time, but if a customer does open their faucet as the ice passes, then ice could be drawn through the service pipe.
- **Q: Can the technique/existing equipment be used on cross-country pipelines? (Rough access)**
- A: Good ground is required for the delivery rig. We have hoses to pump over 100' to the access point on the network.
- **Q: Are there any pipe materials the technique is not suitable for?**
- A: No although special care is required when dealing with unlined cast iron.
- **Q: What data is recorded during an ice pigging operation?**
- A: Water temperature, conductivity, flow, pressure and turbidity are all recorded. A post pigging report will be provided with the total volume of material removed. (Not sewers)
- **Q: Are customers normally notified prior to ice pigging operations?**
- A: We recommend that water authority notify customers in the same way as any other operation on the distribution network. Typically this will be by means of letter, door hanger and /or via the local media.