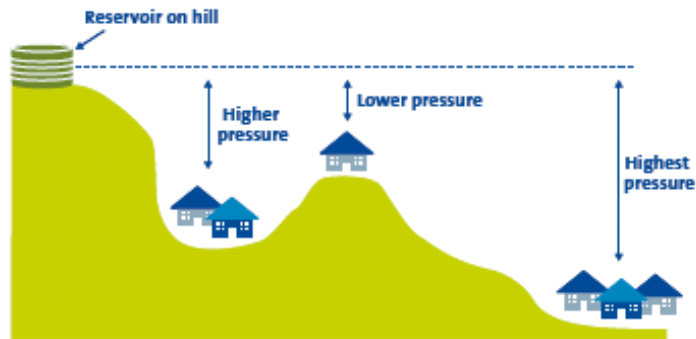


Pressure Reduction Programs

What is pressure reduction?

As a consequence of what is now acknowledged as the worst drought in Australia's history, water regulating bodies across the Eastern seaboard are implementing major programs to reduce pressures in water reticulation systems in an effort to reduce water leaks and conserve water. This is achieved by targeting specific areas that currently have higher than normal mains pressures and installing a Pressure Reduction Valve Station (PRV Station) to reduce the pressure in a section of the water reticulation network.

Most water supply authorities operate under a type of licence condition which imposes a minimum required delivery pressure. The original network was designed to deliver this minimum required pressure to the hydraulically most disadvantaged areas of the network (those on the highest hill in example below). Other areas would then receive higher pressures as a result.



For example:

Properties in low areas receive higher water pressure.
Properties in high areas receive lower water pressure.

Typical water supply network¹

The pressure reduction program separates those areas currently receiving higher mains pressures and installs a pressure reducing valve to reduce the pressure in that area only. In the example above, the houses at the bottom of the hill would receive similar mains pressures to those at the top of the hill.

Why is this a problem?

It would seem that reducing unnecessarily high pressures in water mains would be a good idea if it conserves water, and this is certainly true in times of drought. However, many fire protection systems installed in buildings have been designed based on the water supply pressures available at the time

¹ Sydney Water; Water Pressure Management Brochure;
<http://www.sydneywater.com.au/OurSystemsAndOperations/WaterPressureManagement/pdf/WaterPressureManagementBrochure.pdf>, downloaded 29/1/2007.

the fire protection system was installed. Should these pressures in the town main systems be reduced, the installed fire protection systems will be ineffective.

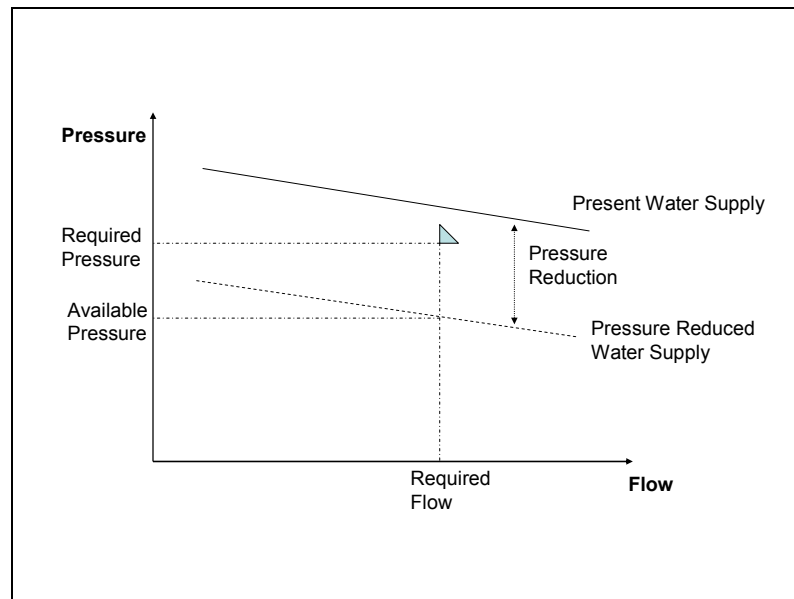


Illustration of Pressure Reduction

Customers are responsible for all their own plumbing requirements on site. As a result, those that have significant pressure reductions imposed and have fire suppression systems will have to invest in booster pumps to boost the water supply pressure to the levels required by the fire protection system.

Sydney Water's Pressure Management Program

Sydney Water have recently begun their pressure reduction program, which they refer to as their Water Pressure Management Program (WPMP). Sydney Water will reduce pressures in these areas to maintain a minimum pressure of 15m head, or 150kPa. This pressure is likely to be insufficient to supply any existing fixed fire protection systems.

The WPMP will focus initially on areas that experience high mains pressure such as Stanwell Park, Berkeley, Sutherland and Blacktown/Parramatta as Stage 1 of the process, which has already begun. Other areas identified for future stages include Beecroft, Chatswood, Beacon Hill and Pymble, with various other areas still under consideration for future stages.

The process will include an enquiry stage where Sydney Water will contact targeted customers initially (those that are considered to have pressure dependant fire suppression systems or commercial processes). These customers will be requested to provide information in relation to their required pressures. **It is imperative that customers that have fixed fire protection systems complete the relevant forms and provide this information to Sydney Water as soon as possible.**

Once Sydney Water have processed these forms they will advise all customers of their expected future pressure levels. These customers will then be given some time to make necessary modifications (minimum 90 days) before pressure reduction is implemented.

What about other areas?

All capital cities and many other large councils or supply authorities are in the process of considering or implementing various forms of water saving programs, which will include similar pressure reduction programs to some degree. Some of the authorities that have already implemented such programs include Yarra Valley Water in Victoria, Brisbane City Council, and Gold Coast City Council in Queensland.

What Should We Do?

If you have a fixed fire protection system (sprinklers, hydrants, deluge systems, etc.) that is supplied directly from the town main, i.e. no fixed water supply to draw from (tanks), then further attention to this issue may be warranted. We suggest:

- If your site is located in one of the areas identified above, and you have not received correspondence requesting details of pressure requirements, then you should consider contacting your water supply authority.
- If you have received a request for information and are not sure what the pressure requirements of your fire protection systems are, you may wish to contact your fire protection maintenance contractor, or RiskTech, for assistance.
- If you have experienced lower than normal water pressures on any of your water supplies, we suggest you contact the local authority to determine whether pressures have been reduced for water conservation reasons.
- If you are considering the installation of fire protection systems, but do not have them at present, you may wish to advise the local authority.
- When reporting pressure requirements, consider any processing requirements as well as fire protection systems. Also consider future needs if known.
- If you have been advised that your water pressure is to be reduced, contact your fire protection maintenance contractor, or RiskTech, to determine what is required to ensure adequate fire protection continues to be provided.

Further Information

Further information on Sydney Water's Water Pressure Management Program can be found at:

<http://www.sydneywater.com.au/OurSystemsAndOperations/WaterPressureManagement/>

Or they can be contacted on 1800 010 501.

If you require further information about the implications of pressure reduction programs, or you need assistance providing the necessary pressure information to the relevant water supply authority, then contact RiskTech.

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