



BMID recently experienced two water quality deviation events in early July, 2007.

July 8, 2007 Water Quality Deviation Event

On the evening of Sunday, July 8, 2007, a mechanical failure occurred on our screens prior to chlorination at our Mission Creek intake. The screens failed to backwash, plugged up with particulate matter and the water levels below the screens in our tunnel and the main supply conduit were reduced to very low levels. In fixing the screens and restoring water flow, sand and silt at the bottom of the tunnel was washed into the distribution system and a slug of highly turbid water was flushed through the water system. Although disinfection was maintained throughout the event, notification was provided immediately to the public of the turbid water event. A 24 hour Water Quality Advisory was issued to the public.

July 4, 2007 Water Quality Deviation Event

On Wednesday, July 4, 2007 another event occurred. This event was the result of a lost signal to our primary chlorinator on our Mission Creek water source. Mission Creek supplies approximately 90% of the District's water demands. The lost signal resulted in a two hour period of time where the primary chlorination system shut down. The system alarms went off and chlorination was restored to normal levels within 2 hours and 5 minutes. Its occurrence was not made known in time to be able to inform the public effectively. This was an error by BMID and the public was not notified in time. The notification at this time is a requirement by the Interior Health Authority.

An advisory was not directed to the public as BMID also has a back-up chlorinator that was programmed to boost chlorine in the supply system to a level of 1.0 milligram per litre if low levels are detected. This chlorinator started and boosted chlorine levels to the stated level, however, it was found that at a third and further sampling site that the chlorine levels were not fully achieved. Actual levels attained were only in the range of 0.2 milligrams per litre. Although this level was sufficient to inactivate 99.99% of viruses and 99.9% of bacteria (industry standard), residual levels were lower than desired and would probably result in no chlorine in the water distribution system extremities for a brief period of time. BMID also operates a water treatment plant and large settling ponds which had reduced the waste contamination in the raw water to extremely low levels. Sampling and monitoring since the event has shown no evidence of bacteria within the water distribution system.

Although the risk posed was small, the event was not communicated in a timely manner to the IHA who were made aware of the event on the next day. BMID had a breakdown in reporting and, as instructed by our regulator, is obligated to report this deviation.

BMID is working to improve the following system performance issues as a result of this event:

1. Reporting protocol between staff, management and IHA is being refined and the priority, importance and protocol for reporting will be communicated to all staff members;
2. BMID will improve their programming for the chlorinator so that two signals are required for chlorine dosage and the chlorinator will still function with only one signal being received (flow and residual chlorine level);
3. BMID will be correcting the process logic in our Surge Tower chlorinator so that the readings provided by the chlorinator are accurate and reliable.
4. BMID will be updating our water distribution SCADA software and are awaiting consultants to carry out this work.

BMID apologizes for not reporting the event to the public. In hindsight, a precautionary 24 hour boil water notice would have been the appropriate course of action. The water was already into the distribution system before the errant chlorine readings were realized. BMID stumbled in reporting the event and will work to improve this as part of our normal process of quality assurance.
