PL8. Discharges

PL8.1 Dechlorination and use of sodium thiosulphate

PL8.1.1 Purpose

- Sets out the work practice that shall be adopted during the dechlorination of reservoirs and pipelines.

PL8.1.2 Scope

- Applies to any Water Supply Group dechlorination activities in the Wellington Region.

PL8.1.3 Responsibility

The Team Leader, Operations and Controls, Team Leader, Pipelines and Mechanical Maintenance or other nominated person shall be responsible for ensuring this procedure is understood and implemented.

PL8.1.4 References

- Action Plan
- Safety Data Sheet (Sodium Thiosulphate Pentahydrate Solution)

PL8.1.5 Procedure

A specific section of all actions plans will be dedicated to dechlorination procedures. For effective dechlorination, the volume of water and chlorine content of the water must be known.

- Reservoirs
    - For every one part of chlorine two parts of sodium thiosulphate are required. It is strongly recommended that a slight excess be added.
    - Dissolve the sodium thiosulphate in water and then mix into the reservoir. Consider using a circulating pump to ensure adequate mixing.
    - Check the chlorine content. If no chlorine is detected, the reservoir can be emptied. If there is still some chlorine, further sodium thiosulphate must be added and, after mixing, chlorine levels rechecked.
    - Check that the rate of discharge from the reservoir is controlled to minimise erosion downstream from the reservoir site.
    - The Dechlorination Record must be completed and forwarded to the Management Systems Advisor.

- Pipelines

    - In theory the same process applies to pipelines as for reservoirs. However, it is difficult to distribute the sodium thiosulphate evenly through the pipeline. An acceptable alternative is to allow the water to percolate through bags of sodium thiosulphate crystals that have been placed in the discharge stream of the water from the pipeline.

    - An alternative for low levels of chlorine residual is to set up a sodium thiosulphate drip directly into the scour discharge flow.

    - Samples must be taken downstream from the dechlorination point. If there is any residual chlorine, the rate of discharge must be slowed down or additional bags of sodium thiosulphate added or the drip rate increased.

PL8.1.6 Environmental

Chlorine, even in very low concentrations, is extremely toxic and traces must be removed prior to discharges to streams and rivers and the sea.

If there is a spill of sodium thiosulphate crystals, sweep up and bag for disposal. If there is a liquid spill, try to contain the spill with sand or absorbent. Sweep this up and then hose down with excess water.

PL8.1.7 First Aid

- If skin contact occurs, wash skin with plenty of water. Remove contaminated clothing and wash before reuse. If irritation occurs, seek medical advice.

- If swallowed, rinse mouth and give plenty of water to drink. If vomiting occurs, give further water. Seek medical advice.

- If eye contact occurs, irrigate with copious quantities of water for 15 minutes. Seek medical advice.

- If inhaled, remove the victim from exposure and avoid becoming a casualty. Seek medical advice if symptoms persist.

- Report all injuries/incidents to the Team Leader, Pipelines.

PL8.1. Contact

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