Name: Tap Water Quality Standards
Date of issue: August 20, 2003

Article 1
This standard is set in accordance with Article 10 of Tap Water Act.

Article 2
The standard terms are defined as follows:

1. Coliform group: Refers to as the non-spore bacteria that can decompose lactose and show Gram negative staining, or the metallic dark bacterial colony cultivated through membrane filtration.
2. Coliform group density: Refers to as the maximum possible number (MPN) of coliform group in 100ml of water sample using the multi-tube fermentation method, or the actual bacterial count generated on the filter membrane in 100ml of water sample using the membrane filtration method.
3. H.A. Thomas Jr. equation: $MPN=\sqrt{\frac{\text{Number of tubes with positive fermentation value x 100}}{\text{Negative fermentation value of sample x all subsequent samples}}}$
4. Multi-tube fermentation method: Refers to as method to determine the existence of coliform group or density in the bacterial water sample using different volumes or different dilutions (the dilution water used for diluting the water sample must be sterilized).
5. Membrane filtration: Refers to as a filtration method using a special filter to determine the existence of coliform group or density.
6. Total bacterial count: Refers to as the actual number of bacterial count in 1 milliliter of water sample cultivated on a standard culture plate.
7. Bacterial water sample: Refers to as the water sample taken by a sampling container for testing the bacteria.
8. Available residual chlorine: Refers to as the available residual chlorine amount after the water has been disinfected with chlorine or chlorine compounds.
9. Free residual chlorine: Refers to as the available residual chlorine in hypochlorous acid or chlorate ions.
10. Combined available residual chlorine: Refers to as the available chloramines and dichloramine in residual chlorine.
11. Total trihalomethanes: Refers to as the total sum of four types of trihalomethanes: chloroform, bromodichloromethane, dibromochloromethane and bromoform in water.

Article 3
Maximum permissible amounts of bacteria in tap water are as follows:
1. The average monthly density of coliform group is 1.0.
2. Density of coliform group density in one bacterial water sample is 6.0.
3. Total bacterial count in one bacterial water sample is 100.

Article 4
The maximum permissible turbidity, color, odor and taste of tap water are as follows:
1. Turbidity:
   (1) Turbidity below 500NTU: 4NTU.
   (2) Turbidity exceeding 500 ~ 1,500NTU: 10NTU.
   (3) Turbidity exceeding 1,500NTU: 30NTU.
2. Color: 15 platinum-cobalt unit.
3. Odor: First sniff counting to 3.
4. Taste: No abnormal taste.

The sampling for the preceding water quality test should be taken more than once a week.

Article 5

The maximum permissible amounts or permissible ranges of chemical substances in tap water are as follows:

1. Lead (Pb): 0.05mg/liter.
2. Selenium (Se): 0.05mg/liter.
3. Arsenic (As): 0.05/liter.
4. Chromium (Cr): 0.05mg/liter.
5. Cadmium (Cd): 0.005mg/liter.
6. Silver (Ag): 0.05mg/liter.
7. Mercury (Hg): 0.002mg/liter.
8. Iron (Fe): 0.3mg/liter.
9. Manganese (Mn): 0.05mg/liter.
10. Copper (Cu): 1.0mg/liter.
11. Zinc (Zn): 5.0mg/liter.
12. Cyanide (CN-1): 0.05mg/liter.
13. Fluoride (F-1): 0.8mg/liter.
14. Chloride (Cl-1): 250mg/liter.
15. Sulfate (SO4-2): 250mg/liter.
16. Ammonia-nitrogen (NH3-N): 0.5mg/liter.
17. Nitrite-nitrogen (NO2 - N): 0.1mg/liter.
18. Nitrate-nitrogen: (NO3 - N): 10.0mg/liter.
19. Total trihalomethanes (annual average value): 0.15mg/liter.
20. Total dissolved solids: 800mg/liter.
21. Phenols: 0.001mg/liter.
22. Anionic surfactants (MBAS): 0.5mg/liter.
23. Total hardness as CaCO3: 400mg/liter.
24. Free residual chlorine: 0.2 ~ 1.5mg/liter.
25. Hydrogen ion concentration index (PH): 6.0 ~ 8.5.
26. Pesticides
    (1) Organic phosphate agents (Parathion, Diazinon, Met-hamidophos, Monocrotophos, EPN) and carbamate (Isoprocarb, Carbofuran, Meth-Omyl): 0.05mg/liter.
    (2) Lindane: 0.0002mg/liter.
    (3) Endosulfan: 0.003mg/liter.
    (4) Herbicides:
        1. Butachlor: 0.02mg/liter.
        2. Paraquat: 0.01mg/liter.
        3. 2,4-D: 0.07mg/liter.
    (5) The permissible amounts of other pesticides that are harmful to water quality shall be prescribed and announced by the central competent authority.

Article 6

The radioactive standards of tap water shall be handled in accordance with the regulations of Safety Standards for Protection against Ionizing Radiation

Article 7

For tap water quality test on bacteria, the water samples should be collected from the water supply/distribution system. The minimum number of samples collected per month is based on the population being supplied with the tap water, as listed as follows:

1. Less than 2,500 people, one sample.
2. More than 2,500 to 10,000 people, 5 samples.
3. More than 10,000 to 25,000 people, 15 samples.
4. More than 25,000 to 50,000 people, 20 samples.
5. More than 50,000 to100,000 people, 30 samples.
6. More than 100,000 to 250,000 people, 45 samples.
7. More than 250,000 to 500,000 people, 65 samples.
8. More than 500,000 to 1 million people, 80 samples.
9. More than 1 million people, 100 samples.

In the course of preceding test or after the test, if the number of existing coliform group or total bacterial

count has exceeded the maximum permissible amount, samples should be taken continuously at the sampling point.

Article 8
For tap water quality on chemical substances, collect the samples once quarterly. In case of special condition, the sampling frequency should be increased. However, for Nos. 1 ~ 7, 12, 13, 16 ~ 19 or 26 of Article 5, if the samples do not exceed the maximum permissible amounts or permissible ranges for three consecutive years, the sampling frequency can be changed to once a year in the following year.

Article 9
Water quality inspection methods shall be otherwise announced by the central competent authority.

Article 10
This standard is implemented on the date of issue.