

Analysis of the Current Situation and Problems of Drinking



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Water Quality Testing in the New Period

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Abstract: With the continuous development of China's economic life at this stage, people have higher requirements for the needs of material living standards. Drinking water is the basis of people's production and life is closely related to economic life, the promotion of the invisible water quality testing of drinking water has also brought pressure. Based on the development of the new period, on the one hand, to improve the level of work of drinking water quality testing, on the other hand, to ensure the quality and efficiency of the work of drinking water quality testing itself. This paper is on the new period of drinking water quality testing status quo and the existence of problems to analyze and discuss, and hope that this can give the majority of relevant workers to suggest and inspire.

Keywords: the new period; drinking water; water quality testing; status and problems

1. Introduction

In recent years, China's industrial chemical field continues to develop, in the acquisition of economic benefits but also brought a lot of negative effects. For example, on the issue of water pollution, the current stage of "green and sustainable development" is the focus of the problem, with industrialization, the urban integration process continues to accelerate, and the quality of urban water supply brings serious challenges. On the one hand, this kind of poor-quality drinking water is a serious threat to the health of the general public. On the other hand, the same will bring many economic losses to urban construction. Therefore, for the time being, dealing with drinking water quality testing is a key issue that needs to be urgently addressed.

2. The new era of drinking water quality testing-related content

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2.1 PH value

Generally speaking, drinking water quality in the process of inspection, will be designed to detect the PH value of water. pH value in the aqueous solution presents "acid" and "alkali" in two states. PH value of water quality to achieve as much acid-base balance, PH value < 7, the water will show a kind of irritating taste. If the PH value is > 7, the water will show a bitter taste, and the colour will also change according to the PH value of the water. But there is a point to note that the water quality of different regions is different, such as the northern part of the water being more acidic. For example, the water in some areas in the north is more acidic, while in some areas the water is alkaline(Li, 2022).

2.2 Electrical conductivity

In addition to the above-mentioned drinking water quality testing PH value, followed by the conductivity of water quality. For conductivity, the essence of its subordination to the digital

representation of a solution to conduct the main way of drinking water quality testing. The main function is to detect the presence of inorganic substances in water beyond the comprehensive index of infection because some harmful substances, dissolved in water are converted into a form of ions. And conductivity detection without the aid of external forces and fluctuations are small, can be an effective check of water quality in the sudden increase of substances.

2.3 redox potential

Drinking water quality testing in the detection of redox potential is not an oxidizing substance as an indicator of the concentration of reducing substances. But you can detect whether the drinking water contains other forms of oxidizing substances or other reducing substances that are present in the specific value. So on the drinking water quality testing, the redox potential testing, is a comprehensive indicator of the very right to speak.

2.4 biological toxicity

Biological toxicity testing has always been an important part of drinking water quality testing, the main purpose is to detect whether people's daily drinking water contains trace elements and whether it contains all kinds of metal ions and other elements, because the above-mentioned two types of substances, once there is an excess, not only is caused by microbial mutations in the water, but also a direct threat to people's health, so for Drinking water biotoxicity detection, can not be ignored.

2.5 Chloride

Such substances as chlorides, in nature, are very common substances, mostly in some natural water, in addition, such as salt precipitates and industrial wastewater also have the figure of such substances. In drinking water quality testing, the inspection of chloride is the basic operation, if there is an excess of chloride in the daily drinking water, like eating too much salt, which not only affects the taste of drinking water but also affects the safety of drinking water.

2.6 Oxygen consumption

The value obtained from the oxygen consumption of drinking water itself can be

indirectly used as one of the indicators of the value of the organic matter in drinking water, but also an important indicator of the degree of pollution of drinking water, so that in the drinking water quality testing, the oxygen consumption test is essential. In general, if the value of oxygen consumption is large, then you can directly conclude that the water body is seriously polluted (Kong, 2022). So in the process of disinfection of water, the hydrogen used will also increase, so it will lead to a change in the taste of drinking water, which is why many people feel the taste of disinfected water in drinking water, is this reason.

3. The reason for the decline in drinking water quality

3.1 Industrial pollution

In recent years, China's industrial level has risen year after year although it has brought many economic benefits, but in terms of sewage discharge, or to be improved. Therefore, industrial wastewater is one of the reasons for the decline in drinking water quality, and this type of industrial wastewater contains a large number of toxic and harmful substances. In addition, this kind of industrial wastewater, has the characteristics of large pollution area, large quantity, wide area, strong toxicity and difficulty to treat. Therefore, it is very difficult to treat this kind of industrial wastewater. In addition, such as our country's mining efforts, but also like the process of metal manufacturing and use will produce all kinds of industrial wastewater, causing serious water pollution. Our mining plants, power bureau, silk reeling factories, food processing, paper mills, printing plants, etc., all produce a large amount of high wastewater in the process of daily operations. Because of the high cost and complicated process of industrial wastewater treatment in China, some units discharge industrial wastewater before it is transformed, or discharged without meeting the standard of sewage discharge, etc., which will cause pollution to the water quality of the surrounding area.

3.2 Pollution from domestic waste

In addition to the above-mentioned industrial and chemical water will lead to the decline of water quality, such as urban daily life generated waste, exhaust gas, wastewater, etc. will have more or less impact on the water body. In urban life, the main waste is non-biodegradable plastic bags, which is widely known as white pollution, as well as kitchen waste and so on. China itself is a large population country with a large urban population base, and naturally, the index of waste generated in daily life has been rising year after year (Li et al., 2022). According to the rising trend of our population in recent years, the amount of waste generated in urban life is increasing by a multiple of 10% year after year. This type of urban waste is a great threat to the water quality and environment of cities. In addition, the utilization rate of all kinds of waste generated in urban life is very low, and many municipal wastes are buried or piled up in a way that under the influence of natural rainfall, such wastes will form a kind of filtrate, and over time, it will infiltrate into the groundwater and directly pollute the water. It is important to know that this kind of waste contains chemical elements such as lead and mercury, and chemical changes occur in the water with microorganisms, which is not only a threat to people's lives but also a direct threat to the natural ecological environment.

3.3 Pollution from the water of the pipe network

Another reason for the decline of drinking water quality in China at this stage is because of the decline in water quality caused by aquatic pollution in the pipe network. The vast majority of cities in China have more pipe network construction than the overall level of aquatic construction. It can be said that the pipe network belongs to a relatively weak link, so in recent years, urbanization construction is also constantly strengthening the old city pipe network construction and renovation work. Generally speaking, in the process of water passing through the pipeline, some chemical substances will be produced, and the accumulation of such chemicals in the quantity will promote the quality change, and the chemical substances produced will directly affect the

indicators of water quality (Xiao, 2022). In addition, some of the deteriorated water will breed some bacteria, resulting in a water quality odour.

3.4 Pollution from the secondary water supply

The secondary water supply is more common at this stage of urbanization construction, but the pollution caused by the secondary water supply will also cause a decline in drinking water quality. Such as cisterns, and water tanks, which are secondary water supply, if the management of such water supply systems is unreasonable, will also cause water pollution. For example, if the water is in the tank for too long, the tank is not locked, some air microorganisms or dust will float into the tank, and if the tank management workers can not clean the tank promptly, the whole tank will become a breeding ground for microorganisms, such as leeches, red nematodes and other organisms are more common.

4. The new era of drinking water quality testing operations are common problems

4.1 The water quality testing emphasizes "quantity" lightly "quality"

The source of the water itself is the most direct impact on the quality of drinking water. But at this stage of the urban water supply system, some enterprises are more concerned about the total amount of water supply, but ignore the quality of water quality, the typical emphasis on "quantity" light "quality" like some poor quality drinking water or contaminated drinking water is mixed in the safe drinking water. . So for water quality pollution, want to effectively solve this problem need to strictly control the quality of water sources, take the initiative to take effective ways to protect water sources, but also with the local government departments to work together to deal with the problem of water quality protection (Yan et al., 2022).

4.2 Drinking water pipeline problems

Generally speaking, the main role of a drinking water pipeline network is to pass drinking water to users through the tap, so effective maintenance of the pipeline network is also key to ensuring the quality

of drinking water. In addition, it is also the basis and prerequisite for completing the quality water quality required in our country. If the city water, the colour of the water becomes red, yellow, turbid and other problems, which are directly related to the long-term maintenance of the water pipe does not have. In addition, such as purifier hardware equipment, etc., will also directly affect the quality of water quality changes.

5. New era of drinking water quality testing and treatment initiatives

5.1 Create a complete practical standard of drinking water

The quality and efficiency of drinking water quality testing work directly affect the quality of urban people's water and health. And how to determine the quality of drinking water, its water quality standards are very critical. Only on top of the standard to ensure the quality of drinking water, ensure that the production of drinking water is in line with the relevant national requirements and standards for drinking water (Ye, 2022). With the progress of various fields in China, it is possible to improve the accuracy and effectiveness of drinking water quality testing, for example, on toxicology, in recent years, the development of toxicology in China has made progress, the combination of toxicology and China's water quality testing, effective control of the number of toxic substances contained in drinking water. So in general, to regulate the standard of drinking water quality testing, to ensure that our resident's water is clean, sanitary, safe and healthy.

5.2 Strengthen the governance of water resources testing

To improve the quality of drinking water quality testing, we must deal with the governance of water resources testing, at this stage in China's water quality testing practice, the development trend of water resources decreasing year by year, which is a more obvious change, but this means that the water resources in China are in a hurry. Therefore, based on this situation, a more complete water resources management optimization system needs to be

established (Huang, 2021). The main purpose is to strengthen the management of water resources and effectively control the quality of water quality, which is not only to improve the overall level of China's drinking water quality testing but also to achieve effective conservation of water resources.

5.3 Strengthen the governance of water transmission and distribution pipelines

The above-mentioned issues on drinking water pipeline transportation, then wanting to improve the quality and efficiency of drinking water quality management, is inevitably necessary to optimize the management of the effective management of water distribution pipes. Then, based on the new period, we should adopt the new water pipe distribution method, on the one hand, to strengthen the governance of water pipes. On the other hand, it is also to ensure the quality of drinking water quality in all aspects. First of all, the effective cleaning of the water pipeline, followed by a full range of control of the specific circumstances of water quality, in the water supply station and water distribution stations and other places to set the relevant drinking water quality stepping point, according to the sampling methods required by the state, the water quality of experimental analysis. Finally, we should also improve the regular maintenance and care of water pipes, the one hand, to effectively prevent any quality problems with water pipes. On the other hand, it is also to avoid problems such as water pipe rupture, which can bring opportunities for microbial invasion.

5.4 Online water quality testing mechanism

Want to improve the quality of drinking water, not only to regulate the standard of its detection but also to deal with the drinking water quality testing response mechanism, which is necessary. China's national pipe network of drinking water quality has selected turbidity, and residual chlorine, as the two basic standards. In the country's vigorous publicity, many drinking water enterprises are gradually aware of the importance of regular and irregular inspection of the pipe network. And there are already some enterprises that are gradually putting into use this drinking water quality testing system, in addition to

the monitoring stations built by the effectiveness. Of course, for water quality testing, the mechanism built the need for talent as a guarantee to sound the integrity of the drinking water quality testing mechanism (Yao et al., 2021).

6. Conclusion

In summary, the continuous development of socialist life in China at this stage drove the development of various fields such as science and technology, construction and industry. While the economic benefits are increasing day by day, the contradiction between economy and ecology is becoming more and more prominent. As for water resources, which are essential for our survival, in recent years, problems like pollution from domestic waste, pollution from industry and pollution from secondary water supply have seriously threatened people's health and safety, so online water quality testing mechanisms, strengthening the governance of water transmission and distribution pipelines, and enhancing the governance of water resources testing to improve the quality of China's drinking water quality testing.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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